United States Department of Agriculture

Timing of Introduction of Complementary Foods and Beverages and Growth, Size, and Body Composition: A Systematic Review

The Pregnancy and Birth to 24 Months Project

Published date: April 15th 2019

Nutrition Evidence Systematic Review
Center for Nutrition Policy and Promotion
Food and Nutrition Service
U.S. Department of Agriculture
3101 Park Center Drive
Alexandria, Virginia

This systematic review was conducted for the Pregnancy and Birth to 24 Months Project (P/B-24 Project) by the Nutrition Evidence Systematic Review (NESR) team at the Center for Nutrition Policy and Promotion, Food and Nutrition Service, USDA. All systematic reviews from the P/B-24 Project are available on the NESR website: https://nesr.usda.gov.

Conclusion statements drawn as part of this systematic review describes the state of science related to the specific question examined. Conclusion statements do not draw implications, nor should they be interpreted to be dietary guidance.

The contents of this document may be used and reprinted without permission. Endorsement by NESR, the Center for Nutrition Policy and Promotion, the Food and Nutrition Service, or the U.S. Department of Agriculture of derivative products developed from this work may not be stated or implied.

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at How to File a Program Discrimination Complaint and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer, and lender.

Suggested citation for this systematic review: Nutrition Evidence Systematic Review Team and Complementary Feeding Technical Expert Collaborative. Timing of Introduction of Complementary Foods and Beverages and Growth, Size, and Body Composition: A Systematic Review. Pregnancy and Birth to 24 Months Project. Alexandria, VA: U.S. Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, February 2019. Available at: https://nesr.usda.gov/project-specific-overview-pb-24-0

This systematic review has also been published in the *American Journal of Clinical Nutrition*: English L, Obbagy JE, Wong YP, Butte NF, Dewey KG, Fox MK, Greer FR, Krebs NF, Scanlon KS, Stoody EE. Timing of introduction of complementary foods and beverages and growth, size, and body composition: a systematic review. *Am J Clin Nutr*. 2019: 109(7): 935S-55S doi: 10.1093/ajcn/nqy267

Related citations:

- **P/B-24 Project overview:** Stoody EE, Spahn JM, Casavale KO. The Pregnancy and Birth to 24 Months Project: a series of systematic reviews on diet and health. *Am J Clin Nutr.* 2019;109(7):685S-697S. doi: 10.1093/ajcn/nqy372
- **P/B-24 systematic review methodology:** Obbagy JE, Spahn JS, Psota TL, Spill MK, Dreibelbis C, Gungor DE, Nadaud PN, Raghavan R, Callahan EH, English LK, Kingshipp BJ, Lapergola CC, Shapiro MJ, Stoody EE. Systematic review methodology used in the Pregnancy and Birth to 24 Months Project. Am J Clin Nutr 2019;109(7):698S–704S. doi: 10.1093/ajcn/nqy226
- **Related systematic reviews from the P/B-24 Project:** English LK, Obbagy JO, Wong YP, Butte

NF, Dewey KG, Fox MK, Greer FR, Krebs NK, Scanlon KS, Stoody EE. Types and amounts of complementary foods and beverages consumed and growth, size, and body composition: a systematic review. *Am J Clin Nutr*. 2019;109(7):956S–77S. doi: 10.1093/ajcn/nqy281.

ACKNOWLEDGEMENTS

Complementary Feeding Technical Expert Collaborative (TEC) members:

- Nancy F. Butte, PhD, RD, USDA/ARS Children's Nutrition Research Center, Baylor College of Medicine, Department of Pediatrics, Emeritus
- Kathryn G. Dewey, PhD, University of California, Davis, Department of Nutrition
- David M. Fleischer, MD, Children's Hospital Colorado, University of Colorado School of Medicine, Department of Pediatrics, Section of Allergy and Immunology
- Mary Kay Fox, Med, Mathematic Policy Research
- Frank R. Greer, MD, University of Wisconsin School of Medicine and Public Health, Department of Pediatrics, Emeritus
- Nancy F. Krebs, MD, MS, University of Colorado School of Medicine, Department of Pediatrics
- Kelley S. Scanlon, PhD, RD, USDA Food and Nutrition Service; formerly of the Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity, and Obesity

Nutrition Evidence Systematic Review (NESR) team:

- Laural K. English[i], PhD, Panum Group, Lead Analyst (11/2016-project completion)
- Julie E. Obbagy, PhD, RD, USDA, Analyst (05/2016-project completion)
- Yat Ping Wong, MLS, MPH, USDA, Librarian
- Tricia Psota, PhD, USDA, Analyst (07/2015-06/2016)
- Perrine Naudad[i], PhD, Panum Group, Analyst (07/2015-05/2016)
- Kirsten Johns[i], MS, Panum Group, Analyst (07/2015-05/2016)
- Nancy Terry, MLS, NIH, Librarian

Project Leads:

- Eve Essery Stoody, PhD, USDA

Federal Expert Group (FEG)-Technical Expert Collaborative (TEC) Liaisons:

- Kelley Scanlon, PhD RD, USDA Food and Nutrition Service; formerly of the Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity, and Obesity

All TEC and NESR team members, Project leads, and FEG-TEC liaisons participated in establishing the research questions, analytic framework, and study inclusion and exclusion criteria. LKE, JEO, YWP, TLP, PN, KJ, and NT developed and conducted the literature search, screened search results, and identified studies for inclusion. LKE and JEO extracted data and assessed risk of bias for included studies. NFC, KGD, DMF, MKF, FRG, NFK, and KSS reviewed and provided substantive feedback on all systematic review materials, including the synthesis of the body of evidence, conclusion statement, and grade of the strength of the evidence. LKE prepared this

[i] Under contract with the Food and Nutrition Service, United States Department of Agriculture.

report and EES provided oversight. All authors critically reviewed and approved the final report. The authors declare no conflicts of interest.

FUNDING SOURCE: United States Department of Agriculture, Food and Nutrition Service, Center for Nutrition Policy and Promotion, Alexandria, VA

TABLE OF CONTENTS

INTRODUCTION

This document describes a systematic review conducted to answer the following question: What is the relationship between timing of introduction of complementary foods and beverages and growth, size, and body composition?. This systematic review was conducted as part of the Pregnancy and Birth to 24 Months Project (P/B-24 Project) by USDA's Nutrition Evidence Systematic Review (NESR).

The purpose of the P/B-24 Project was to conduct a series of systematic reviews on diet and health for women who are pregnant and for infants and toddlers from birth to 24 months of age. This project was a joint initiative led by USDA and HHS, and USDA's NESR carried out all of the systematic reviews. A Federal Expert Group (FEG), a broadly representative group of Federal researchers and program leaders, also provided input throughout the P/B-24 Project. More information about the P/B-24 Project has been published[ii] and is available on the NESR website: https://nesr.usda.gov/project-specific-overview-pb-24-0

NESR, formerly the Nutrition Evidence Library (NEL), specializes in conducting food- and nutrition-related systematic reviews using a rigorous, protocol-driven methodology. To conduct each P/B-24 systematic review, NESR's staff worked with a Technical Expert Collaborative (TEC), which is a group of 7-8 leading subject matter experts.

NESR's systematic review methodology involves developing and prioritizing systematic review questions, searching for and selecting studies, extracting and assessing the risk of bias of data from each included study, synthesizing the evidence, developing a conclusion statement, grading the evidence underlying the conclusion statement, and recommending future research. A detailed description of the methodology used in conducting systematic reviews for the P/B-24 Project has been published[iii] and is available on the NESR website: https://nesr.usda.gov/pb-24-project-methodology-0. In addition, starting on page 49, this document includes details about the methodology as it was applied to the systematic review described herein. An analytic framework that illustrates the overall scope of the question, including the population, the interventions and/or exposures, comparators, and outcomes of interest, is found on page 49. In addition, the literature search plan that was used to identify studies included in this systematic review is found on page 50.

[ii] Stoody EE, Spahn JM, Cassavale KO. The Pregnancy and Birth to 24 Months Project: a series of systematic reviews on diet and health. *Am J Clin Nutr*. 2019;109(7):685S-697S. doi:10.1093/ajcn/nqy372

[iii] Obbagy JE, Spahn JS, Psota TL, Spill MK, Dreibelbis C, Gungor DE, Nadaud PN, Raghavan R, Callahan EH, English LK, Kingshipp BJ, Lapergola CC, Shapiro MJ, Stoody EE. Systematic review methodology used in the Pregnancy and Birth to 24 Months Project. *Am J Clin Nutr*. 2019;109(7):698S–704S. doi: 10.1093/ajcn/nqy226

List of abbreviations

Abbreviation	Full name
BF	Breast fed
BMIZ	Body mass index z-score
CF	Complementary feeding
CFB	Complementary food and beverage
DXA	Dual-energy X-ray absorptiometry
EBF	Exclusively breast-fed
EFF	Exclusively formula fed
FEG	Federal expert group
FF	Formula fed
FFM	Fat-free mass
FM	Fat mass
FMZ	Fat mass z-score
HAZ	Height-for-age z-score
HC	Head circumference
HHS	Department of Health and Human Services
LAZ	Length-for-age z-score
NEL	Nutrition Evidence Library
NESR	Nutrition Evidence Systematic Review
NIH	National Institutes of Health
P/B-24	Pregnancy and Birth to 24 Months Project
RCT	Randomized controlled trial
TEC	Technical Expert Collaborative
USDA	United States Department of Agriculture
WAZ	Weight-for-age z score
WC	Waist circumference
WHZ	Weight-for-height z score
WLZ	Weight-for-length z score

WHAT IS THE RELATIONSHIP BETWEEN THE TIMING OF INTRODUCTION OF COMPLEMENTARY FOODS AND BEVERAGES AND GROWTH, SIZE, AND BODY COMPOSITION?

PLAIN LANGUAGE SUMMARY

What is the question?

- The question is: What is the relationship between the timing of introduction of complementary foods and beverages (CFB) and growth, size, and body composition?

What is the answer to the question?

- Moderate evidence suggests that first introduction of any CFB between 4-5mo compared to approximately 6mo of age is not associated with weight status, body composition, body circumferences, weight, or length among generally healthy, full-term infants.
- Limited evidence suggests that introducing CFB before 4mo of age may be associated with higher odds of overweight/obesity.
- There is not enough evidence to determine the relationship between introduction of CFB at 7mo of age or older on growth, size, or body composition.

Why was this question asked?

- This important public health question was identified and prioritized as part of the U.S. Department of Agriculture and Department of Health and Human Services Pregnancy and Birth to 24 Months Project.

How was this question answered?

- A team of Nutrition Evidence Systematic Review staff conducted a systematic review in collaboration with a group of experts called a Technical Expert Collaborative

What is the population of interest?

- Generally healthy infants and toddlers who were fed complementary foods and beverages from ages 0-24mo and had growth, size, and/or body composition outcomes measured across the lifespan

What evidence was found?

- Eighty-one articles examined the association between timing of introduction of CFB, as early as 1mo and as late as 12mo of age, and growth, size, and/or body composition outcomes across the lifespan
- In the majority of studies, no significant associations were reported. A limited number of observational studies suggested that CFB introduction before age 4mo was associated with higher odds of overweight/obesity. No conclusion was drawn regarding the introduction of CFB at 7mo or older.
- Limitations in the evidence included inconsistency among all studies and a preponderance of null findings

How up-to-date is this review?

- This review includes literature from 01/1980 to 07/2016

TECHNICAL ABSTRACT

Background

- Systematic reviews were conducted as part of the U.S. Department of Agriculture and Department of Health and Human Services Pregnancy and Birth to 24 Months Project.
- The goal of this systematic review was to examine the following question: What is the relationship between timing of introduction of complementary foods and beverages (CFB) and growth, size, and body composition?
- Complementary feeding is the process that starts when human milk or infant formula is complemented by other foods and beverages, beginning during infancy and typically continuing to 24 months of age. CFB were defined as foods and/or beverages other than human milk or infant formula (liquids, semisolids, and solids) provided to an infant or young child to provide nutrients and energy.

Conclusion Statement and Grades

- Moderate evidence suggests that first introduction of any complementary food or beverage (CFB) between 4-5 months compared to approximately 6 months of age is not associated with weight status, body composition, body circumferences, weight, or length among generally healthy, full-term infants. **Grade: Moderate**
- Limited evidence suggests that introducing CFB before 4 months of age may be associated with higher odds of overweight/obesity. **Grade: Limited**
- There is not enough evidence to determine the relationship between introduction of CFB at 7 months of age or older on growth, size, or body composition. **Grade: Grade Not Assignable**

Methods

- This systematic review was conducted by a team of staff from the Nutrition Evidence Library in collaboration with a Technical Expert Collaborative.
- Literature search was conducted using 4 databases (PubMed, Cochrane, Embase, and CINAHL) to identify articles that evaluated the intervention or exposure of timing of CFB introduction and the outcomes of developmental milestones. A manual search was conducted to identify articles that may not have been included in the electronic databases searched. Articles were screened by two analysts? independently for inclusion based on pre-determined criteria.
- Data extraction and risk of bias assessment were conducted for each included study, and both were checked for accuracy. The body of evidence was qualitatively synthesized to inform development of a conclusion statement(s), and the strength of evidence was graded using pre-established criteria evaluating the body of evidence on risk of bias, adequacy, consistency, impact, and generalizability.

Summary of Evidence

- This review includes 81 articles that examined the association between timing of introduction of CFB and growth, size, and/or body composition across the lifespan

- Timing of CFB introduction is the age at which any or specific types of CFB were first consumed and was examined as early as 1 month and as late as 12 months of age.
- Timing of CFB introduction was not associated with growth, size, body composition, and/or weight status in the majority of included studies. A limited number of observational studies suggested that CFB introduction before 4 months of age was associated with higher odds of overweight/obesity.
- Given the normal variation in healthy child growth patterns, caution should be used when interpreting results between timing, types and/or amounts of CFB and outcomes for individuals based on findings at the population level.

FULL REVIEW

Systematic review question

What is the relationship between timing of introduction of complementary foods and beverages and growth, size, and body composition?

Conclusion statement

Moderate evidence suggests that first introduction of any complementary food or beverage (CFB) between 4-5 months compared to approximately 6 months of age is not associated with weight status, body composition, body circumferences, weight, or length among generally healthy, full-term infants.

Limited evidence suggests that introducing CFB before 4 months of age may be associated with higher odds of overweight/obesity.

There is not enough evidence to determine the relationship between introduction of CFB at 7 months of age or older on growth, size, or body composition.

Grades

Moderate– Introduction of CFB between 4-5 compared to 6 months of age

Limited – Introduction of CFB before 4 months of age

Grade Not Assignable – Introduction of CFB at 7 months of age or older

Summary

- This review includes 81 articles that examined the association between timing of complementary foods and beverages (CFB) introduction and growth, size, and/or body composition from birth through adulthood, including:
    - Five articles from two randomized controlled trials (RCTs)
    - 71 prospective cohort studies
    - One retrospective cohort study
    - One nested case-control study
    - Three case-control studies

- Timing of CFB introduction is the age at which any or specific types of CFB were first consumed and was examined as early as 1 month and as late as 12 months of age. Studies that examined the introduction of specific types or amounts of CFB are addressed in a separate review.

- Outcomes included weight, length/height, body circumferences (e.g., head, waist, chest, arm, thigh), adiposity (e.g., fat mass, skinfold thickness), weight-to-height ratio (e.g., body mass index (BMI), weight-for-length Z-score (WLZ)), and weight status (e.g., risk of overweight or obesity). Outcomes were assessed at a range of ages from birth to 42y of age at either a single, pre-determined time point or at multiple time points or as continuous variables to capture change over time. Having data both before and after introduction of CFB is very important, as outcomes that do not take into account the infant's initial anthropometric status (before any CFB are introduced) are hard to interpret (e.g., risk of reverse causation)

- Timing of CFB introduction was not associated with growth, size, body composition, and/or weight status in the majority of included studies.

- A limited number of observational studies suggested that CFB introduction before 4 months of age was associated with higher odds of overweight/obesity. However, due to inconsistency in findings and methodological limitations, a stronger conclusion was not made considering the preponderance of studies with null findings.

- There is insufficient evidence to support any association between timing of CFB introduction and body circumferences among generally healthy, full-term infants.

- Given the normal variation in healthy child growth patterns, caution should be used when interpreting results between timing, types and/or amounts of CFB and outcomes for individuals based on findings at the population level.

- Many studies examined the relationship between timing of CFB introduction and only one outcome, primarily weight, which, without information about other aspects of growth (i.e., length/height, or weight for length/height), provided limited information towards understanding how timing of CFB introduction may impact overall growth patterns. Therefore, studies that examined multiple outcomes, including outcomes that could be used to determine whether growth was healthy or unhealthy (e.g., risk of obesity, fat mass) were weighted more heavily in drawing conclusions from the body of evidence.

- Additional factors, which may mediate or moderate the relationship between the time at which CFB are introduced and growth, size, body composition, and/or weight status outcomes need to be considered including:
    - Specific types and/or amounts of CFB introduced
    - Early infant milk feeding practices (human milk, formula, and/or mixed)
    - Parental feeding styles and the rationale for determining when to initiate CFB (e.g., perceived infant readiness, infant growth or size, fear of inadequate milk supply, sleep promotion, responsive feeding, infant food neophobia/acceptance)
    - Early infant growth patterns
    - Cultural preference related to parental history and/or feeding practices

Description of the evidence

This systematic review includes 81 articles that examined the association between the timing of introduction to CFB and growth, size, body composition, and/or weight status from infancy through adulthood. These articles include two RCTs, which are reported in five articles (1-5); 71 prospective cohort studies (6-76), one retrospective cohort study (77), one nested case-control study (78), and three case-control studies (79-81) (Supplemental Table S1). Multiple articles reported data from the same cohort but presented different types of outcomes, the same outcomes at different ages, or different outcomes at different ages (21, 24, 25, 30, 49, 51, 56, 60) (9, 18, 19, 63) (10, 12, 28, 31, 32, 35, 57).

Description of subject characteristics

Sixty-eight articles were from studies conducted in countries categorized as “very high” according to the Human Development Index, which is a composite measure of life expectancy, education, and standards of living of countries (82): Australia (8, 29, 62, 68); Canada (27, 42-45, 58, 75); Denmark (11, 20, 61); Finland (50, 59); Germany (40); Iceland (2-5, 38); Ireland (48); Israel (22); Norway (46); Netherlands (9, 17-19, 63); U.K. (10, 21, 31-33, 35, 39, 49, 56, 57, 60, 66, 67, 70); Scotland (6, 26); U.S. (1, 7, 12-14, 16, 23-25, 28, 30, 36, 37, 47, 51, 53, 55, 71, 73, 74, 77, 79). Nine studies were conducted in countries categorized as “high” according to the Human Development Index (82): Brazil (52, 64); China (76, 80, 81); Iran (41); Mexico (15, 65); Peru (54).

Four multi-site studies were conducted with participants from various countries. Two studies included participants from European countries all categorized as “very high” (34, 78), one study included participants from three countries categorized as “very high” or “high” (72), and one study combined participants from seven countries categorized as “very high”, “high”, “medium”, and “low” (69).

The majority of studies included participants who were healthy, full-term infants, though six prospective cohort studies did not report gestational age and birthweight of participants (15, 21, 62, 66, 70, 71). Almost all studies enrolled both girls and boys (~43-55% female), with one study including only girls (23).

Studies varied in terms of whether infants were fed human milk, infant formula, or both. Most studies included participants regardless of their feeding method and adjusted for feeding method in the analyses. However, several studies only included infants who were either exclusively breastfed (EBF) (2-5, 41, 55, 64, 69) or exclusively formula-fed (EFF) (1, 33, 73, 74). In a few studies, the relationship between timing of CFB introduction and growth, size, and/or body composition was analyzed separately in BF and FF infants (14, 36, 37).

Description of timing of introduction of complementary foods and beverages

Timing of CFB introduction was determined as the age at which CFB was first introduced. However, studies differed in terms of whether timing was analyzed categorically or continuously, what categories of ages were evaluated and compared, and the methods used for determining age of CFB introduction, whether prospectively or retrospectively. For specific time points of exposures, see Supplemental Table 1.

One RCT (reported in 4 articles) randomized EBF infants to either receive CFB starting at 4 mo of age or remain EBF from 4 until 6 mo of age (2-5). The second RCT randomized EFF infants to either receive CFB at age 16 wk, or remain EFF from 16 to 26 wk of age (1). Sixty-three observational studies analyzed age of CFB introduction categorically, often considering introduction of CFB before 4 mo as the earliest category and at/after 6mo as the latest category. Categories of timing of CFB introduction varied across studies, which examined two (e.g., <4 mo vs. at/after 4 mo of age), three (e.g., <2 vs. 3-5 vs. >6 mo), or four (1-8 vs. 9-16 vs. 17-24 vs. 25-32 wk) comparison groups. Few articles attempted to achieve greater specificity in terms of timing by further differentiating categories of CFB introduction within the 4-6 mo timeframe. There were a number of studies that examined more extreme categories of introducing CFB as early as ≤1 mo (44, 56) or ≤ 2mo (49, 68, 69, 75) to as late as at/after 12 mo of age (15). Timing of CFB introduction was analyzed continuously in 16 studies (7, 14, 16, 24, 25, 42, 43, 45, 50, 61, 62, 65, 66, 72-74). Several studies examined timing of CFB introduction both continuously and categorically (24, 34, 36, 45, 50, 61). Two studies did not clearly define their methods for analyzing timing of CFB introduction (27, 57).

Description of growth, size, and body composition outcomes

Outcomes that were reported in relation to timing of CFB introduction ranged in age from birth to 42 y (see Supplemental Table S1). As defined by the included studies, outcomes relevant to 'growth' were examined over multiple time-points or intervals between baseline and endpoint of the study, outcomes relevant to 'size' were examined as an absolute measurement at one point in time, and 'body composition' outcomes were examined via proxies or indices, both across time and at single time points. Studies varied in how they accounted for growth beyond absolute size, such as by measuring outcomes at or across multiple time points, adjusting for baseline weight or earlier growth, or adjusting for birth weight. Therefore, the outcomes are discussed in the following categories, utilized herein to describe the included evidence: weight status, body composition (including adiposity, weight relative to length/height, and waist circumference (WC)); weight and length or height measures; and body circumferences (except waist).

Weight status

Twenty-eight articles in this SR (1 RCT; 27 from observational studies) reported weight status (2, 6, 12, 15, 18, 21, 24, 25, 30, 35, 37, 45, 48, 50-53, 56, 58, 61, 62, 68, 76-81). The relationships between timing of introduction of CFB and incidence of malnutrition, growth faltering, stunting, or wasting were not reported by studies included in this SR. The majority of studies published after 2007 used either BMI and/or BMI z-score (BMIZ) to classify participants older than 2 y of age as having obesity if ≥95th percentile or overweight if ≥85th percentile. However, cut-points varied slightly across studies according to international standard references at the time the studies were conducted or respective country growth references (e.g., Centers for Disease Control and Prevention (CDC), International Obesity Task Force (IOTF), World Health Organization (WHO), National Center for Health Statistics (NCHS)). One study classified obesity as a weight-for-age at or above the 98th percentile and computed models based on child BMI to compare with WHO, CDC, and IOTF cut-offs (30). In another study, risk of overweight was defined as having a BMI ≥85th percentile, and obesity was defined as having a combination of BMI ≥85th percentile and skinfolds (triceps and subscapular) ≥90th percentile (52).

Body composition

Adiposity. Nineteen articles in this SR (2 from RCTs; 17 from observational studies) assessed adiposity with measures of fat mass (FM) or skinfold thickness (1, 5, 7, 9, 10, 14, 17-20, 37, 42, 43, 49, 57, 67, 70, 75, 77). A wide variety of assessment methods were used including dual-energy X-ray absorptiometry (DXA) to derive FM, FM index (FMI), lean mass, lean mass index, and/or body fat percentage (18, 49, 57, 77), total body water to obtain FM, fat free mass (FFM), and/or lean mass (5, 67), bioelectrical impedance analysis (BIA) to calculate body fat percentage (70), or a combination of DXA, total body water, and/or bioelectrical impedance to calculate FM, FFM, FMI, FFMI, FM z-score (FMZ), or FFM z-score (FFMZ) (14, 17, 20). One article used DXA to examine android-gynoid fat ratio (18). Studies used calipers by trained staff to measure triceps and subscapular (1, 9, 10, 14, 19, 67), suprailiac (1, 9, 19), bicep (19), and/or flank and quadriceps skinfold thicknesses (14), or sum of skinfold thicknesses (7, 9, 19, 37, 42, 43, 75).

Weight-to-height. Twenty-nine articles in this SR (2 from RCTs; 27 from observational studies) assessed weight-to-height indices such as BMI and weight-for-length z-score (WLZ) (2, 5, 7, 17, 18, 21, 23, 29, 33, 34, 36-38, 42-44, 46, 55, 57, 60, 61, 63, 64, 68, 70-72, 76, 77), with most using standard procedures to calculate BMI or WLZ from measurements. Several studies used weight and length or height from parent-report (76), clinical/school records (46, 81), a combination of measurements and self-report (61), or did not describe how they obtained weight and length/height (6).

Waist circumference (WC)/abdominal fat. Five articles in this SR (1 RCT; 4 from observational studies) assessed abdominal fat and/or WC via ultrasound (18), measured WC (1, 15), self-reported WC (61), or by calculating a sum of core skinfold thickness measures to reflect 'central FM' (19).

Weight and length or height

Twenty-eight articles in this SR (4 from RCTs; 24 from observational studies) examined both weight and length or height outcomes (1, 2, 4, 5, 8, 10, 13, 14, 16, 17, 23, 33, 34, 36-38, 41, 44, 47, 55, 59, 64, 65, 67, 69-72). The majority of studies reported growth and/or size outcomes at or in the first year of life, though five studies reported growth and/or size during the second year of life and four studies reported growth and/or size during childhood, between 2-7 y of age. Most studies reported using standard procedures to obtain weight and height, (e.g., duplicate measures from calibrated scales/stadiometers). However, a few studies obtained weight and/or length via parent-report (11, 28, 39), clinical/school records (47, 71), unstandardized methods (44), or did not describe their methods (1, 33). Nine studies calculated weight-for-age z scores (WAZ) and eight studies calculated height/length-for-age z-scores (HAZ/LAZ) from either measured or reported weight and/or length.

Head, arm, and thigh circumference

Eight studies reported head circumference growth and/or size (1-5, 13, 14, 44). Two of these studies also reported chest, arm, and thigh circumferences (1, 14). Most studies reported using standard procedures to obtain head, arm, or thigh circumferences (e.g., non-stretchable tape and standard landmarks).

Evidence synthesis

Results from the included studies, organized by study design and similar outcomes, are described in **Table 1**.

Randomized controlled trials

In the RCTs, EBF infants (2-5) were randomized to start receiving CFB at 4 vs. 6 mo of age or EFF infants were randomized to start receiving CFB at 16 wk vs. 26 wk of age (1). Results from four articles (one RCT) among BF infants (2-5) showed no significant associations between timing of CFB and weight, length, or HC at 6 mo (5), from 0-6 mo, or from 4-6 mo (4); BMI, lean mass, or FM at 6 mo (5); WAZ/LAZ at 18 mo or change in WAZ/LAZ from 29-38 mo (2); weight status at 18 mo or from 29-38 mo (2); HC z-score at 6 mo (5), HC or HC-for-age at 18 mo (2, 3); or change in HC from 29-38 mo (2).

In the trial with EFF infants, timing of CFB was examined relative to weight, length, adiposity, and body circumference outcomes (1). Significant findings were reported for isolated outcomes. The EFF infants who were introduced to CFB at 16 wk vs. 16-26 wk had increased change in length and a smaller decrease in suprailiac skinfold thickness from 16-26 wk of age. Notably, groups significantly differed in length by 1cm at baseline and these differences were not clearly accounted for so the results should be interpreted with caution. Further, the groups did not differ in length at 26 wk. No other significant differences between groups were found in relation to additional outcomes including total skinfold thickness, or change in skinfold thickness, weight, or body circumferences from 16-26 wk of age. Several of these articles from both RCTs (1, 4, 5) reported outcomes at or before 26 wk of age, when accumulation of FM is maximal relative to body weight, which makes drawing a stronger conclusion on inadequate or excessive growth, size, body composition, and/or weight status difficult without additional follow-up measurements over time.

Observational studies

Weight status

Twenty-seven articles from observational studies examined the relationship between timing of CFB introduction and weight status outcomes (6, 12, 15, 18, 21, 24, 25, 30, 35, 37, 45, 48, 50-53, 56, 58, 61, 62, 68, 76-81). About half of these 27 articles reported no association between timing of CFB introduction and weight status, such that early introduction of CFB (primarily <4 mo of age) was not significantly associated with risk of overweight/obesity during childhood, at ages ranging between 2-14 y (12, 15, 18, 21, 25, 45, 48, 50, 52, 56, 58, 77, 78, 80). The remaining articles reported significant negative associations between timing of CFB and weight status, such that earlier introduction of CFB (primarily <4 mo of age although timing of CFB varied) was significantly associated with higher weight status (6, 30, 35, 37, 51, 53, 61, 62, 68, 76, 79, 81). Higher odds of overweight/obesity in those with earlier CFB introduction were observed primarily in childhood between 2-6 y of age (range of 2-42 y). Several articles included multiple comparison groups (e.g., introduction of CFB <4, 4-6, >6 mo) but found higher odds of overweight/obesity only for those who were in the earliest CFB introduction group (6, 37, 51, 68, 76, 81). A few of these articles reported additional null associations, depending on the comparison group and/or age of outcome.

Across the studies that examined timing of CFB introduction relative to weight status outcomes, there was heterogeneity in categories of CFB introduction, age of outcome assessment (ranging from 2-42 y), methods used for outcome assessment (e.g., weight status derived from either measured vs. reported weight and height), and variable cut-offs for either BMI or BMIZ to classify obesity and/or overweight separately or as one “above healthy” category of weight status. Two studies examined age of introduction of sugar-sweetened beverages (SSBs) specifically rather than CFB generally (15, 53).Very few of these studies examined other outcomes that may help with interpretation of weight status. For instance, some articles that examined timing of introduction of CFB in relation to weight status also examined timing of CFB in relation to adiposity (18, 37, 77) and/or weight (37, 48, 50). Most of those studies found no significant association between timing of CFB and adiposity during childhood (3-6 y) or weight during the first 3 y of life. One study showed no significant association between timing of CFB introduction (either <4, <5, or <6 vs. ≥6 mo) and weight status at 3 y but observed increased weight at 9 mo (48). Huh et al. reported that earlier CFB introduction (<4 vs. 4-5 mo but not vs. ≥6 mo) in FF infants was associated with increased weight status, BMI, BMIZ, and WAZ at 3 y but results in BF infants were null (37). In either BF or FF infants in that study, timing of CFB was not significantly associated with skinfold thickness at 3 y. Studies also varied in adjusting the results for potentially key confounding factors. For example, all of the articles that reported significant results adjusted for birth weight, but did not consistently adjust for baseline weight, length or other measures of weight status. In addition, studies varied in the magnitude of observed effects.

Body composition

Adiposity. Seventeen observational studies examined the relationship between timing of CFB introduction and adiposity outcomes (7, 9, 10, 14, 17-20, 37, 42, 43, 49, 57, 67, 70, 75, 77), of which the majority reported no significant association between timing of CFB introduction and adiposity outcomes in childhood (age ranges between 6 mo and 15 y), including skinfold thickness, FM and FFM, lean mass and FM indices, and percentage of body fat (7, 9, 10, 14, 18, 20, 37, 43, 49, 57, 67, 75, 77). Three of the 17 articles reported significant negative associations between timing of CFB and either skinfold thickness at 12 mo (52) or 24 mo (19), or body fat percentage at 7 y (70), One of the 17 articles also reported a negative association such that later CFB introduction > 6 mo vs. < 4 mo was associated with lower FMZ at 5-6y, but this was no longer significant in the final model (17). These studies (4 of 17) found no significant associations when examining other related outcomes (e.g., peripheral FM at 24 mo (19), BMI at 12 mo (42), FFMI at 5-6 y (17)).

Across the studies that assessed timing of CFB relative to adiposity, a number of studies had substantial methodological limitations such as limited generalizability from using a very early (<4 mo) age of introduction of CFB (10, 17, 49, 57, 67, 70, 75, 77). Several examined additional outcomes including weight-to-height ratios, weight, length, and/or central adiposity (7, 10, 14, 17, 19, 37, 43, 57, 67, 70, 77). Of those studies that examined additional outcomes, the results for adiposity outcomes were primarily null and inconsistent in terms of direction and/or sub-group of interest (e.g., FF vs. BF) relative to other outcomes. For example, Agras et al. (7) found that age of (continuous) introduction of CFB was not significantly associated with skinfold thickness at any age but delayed introduction was positively associated with BMI at 1, 2, and 3 y of age. However, it is unclear what drove those findings with respect to BMI because Agras et al. (7) did not report weight or height outcomes. Baird et al. (10) found null results between timing of CFB (<3, at 3, at 4 vs. ≥5 mo) and both adiposity and weight from birth-6 mo of age, but found that timing of CFB (at 3 vs. ≥5 mo) was associated with gain in length from birth-6 mo of age.

There was substantial variation in the adiposity outcomes reported and corresponding assessment methods. For example, some studies reported FM measured via DXA or bioelectrical impedance while others reported FM via sum of skinfold thickness. There were no clear patterns observed based on the technique used to measure of adiposity.

Weight-to-height. Twenty-seven articles from observational studies examined the relationship between timing of CFB introduction and weight-to-height outcomes (7, 17, 18, 21, 23, 29, 33, 34, 36-38, 42-44, 46, 55, 57, 60, 61, 63, 64, 68, 70-72, 76, 77) of which the majority reported no significant associations between timing of CFB introduction and BMI or BMIZ mostly in early childhood (ages ranged between 2 and 11.5 y) .

Several of the 27 observational studies reported inconsistent but significant associations between timing of CFB and/or BMI, BMIZ, or WLZ. Most of the significant findings identified were negative associations, with earlier CFB introduction significantly associated with higher BMI at 3 y (37), 4-5 y (76), and 42 y (61), BMIZ at 36 mo (34), and WLZ from 9-12 mo (44). However, across the studies with significant findings, a few positive, null, and/or mixed associations were also reported (7, 33, 34, 55). See Table 2 for more details. Grote et al. (33) reported a significant negative association between timing of CFB introduction (≤13 vs. ≥22 wk) and BMI-for-age trajectory until 24 mo but found no relationship relative to WLZ, BMI or BMIZ at 24 mo of age. Notably, most of the studies with significant associations (in either direction) compared groups of CFB introduction at either very early ages such as <4 mo relative to various other ages, or at unique ages such as 9 mo. In addition, most of the studies with any significant finding relative to weight-to-height indices had substantial methodological limitations such as limited generalizability and potential for reverse causality.

Across the studies that examined timing of introduction of CFB and weight-to-height, there was heterogeneity in terms of: age of outcome assessment (6 mo - 42 y), methods used for outcome assessment (e.g., BMI obtained from measured vs. self-reported weight and height), type of CFB introduced (e.g., juice, cereal, meat), and which potential key confounders were adjusted for in analyses. For instance, the majority adjusted for birth weight in addition to baseline anthropometric values but did not account for maternal age, gestational age, or parental weight/height status in analyses. Most of the studies that examined weight-to-height indices examined additional outcomes, such as adiposity, weight, and/or length or height. Many, but not all, of those studies examined weight and/or length or height outcomes at the same or different ages. Results were inconsistent across these studies for weight-to-height indices and weight. For example, although Grote et al. (33) found no significant association of timing of introduction of CFB with respect to BMI, WLZ, or BMIZ at 24 mo, those who were introduced to CFB earlier vs. later (≤13 vs. 14–17 wk) or later vs. earlier (18–21 vs. 14-17 wk) had higher WAZ at 24 mo of age. Haschke et al. (34) reported that EBF infants introduced to CFB <4 mo compared to those who remained EBF from 4-6 mo had lower BMIZ at each mo assessed (between 1 and 36 mo of age), and lower WAZ at 3, 4, 5, and 6 mo of age, but no significant association with WAZ at younger or older ages (birth, 1, 2, 9, 12, 18, 24, 30, or 36 mo). In addition, Haschke also reported significant positive correlations between age of CFB introduction and BMI gain ($kg/m^2/y$) and weight gain (g/mo) from 1-12 mo, but these associations were not significant for outcomes from 1-24 mo or 1-36 mo of age. A few studies examined only weight-to-height (length) indices, all of which had null findings (29, 46, 60, 63).

Because weight-to-height indices are a proxy for body composition, results from these studies are difficult to interpret given the different implications of body composition early in infancy/childhood as opposed to adulthood. Weight-to-height indices, such as BMI, alone provide limited information without other relevant outcomes (e.g., weight status, adiposity, weight and length outcomes).

Waist circumference (WC)/Abdominal fat. Four observational articles examined the relationship between timing of CFB introduction and central adiposity outcomes (15, 18, 19, 61), of which three reported no significant associations with WC at 24 mo or 42 y, or abdominal fat at 6 y or 8-14 y (15, 18, 19, 61). Earlier CFB introduction, measured continuously, was associated with increased WC at 42 y in one study (61). However, that study had substantial methodological limitations including use of non-standardized anthropometric assessments (e.g., self-report) and limited generalizability due to CFB practices at the time of original data collection (e.g., 1959-1960). Two of the studies had very long time to follow-up at 8-14 y and 42 y and reported associations for categories of age of CFB introduction at very early (<4 mo) or very late (<12 mo) ages (15, 61). Across these four observational studies, there was variability in terms of methods used to measure central adiposity, age of outcome assessment and methodological limitations.

Weight and length/height

Twenty-four articles from observational studies examined the relationship between timing of CFB introduction and both weight and length or height outcomes (8, 10, 13, 14, 16, 17, 23, 33, 34, 36-38, 41, 44, 47, 55, 59, 64, 65, 67, 69-72), of which the majority (16 studies) reported at least one significant association with weight and/or length (8, 10, 13, 16, 17, 33, 34, 36-38, 44, 55, 59, 65, 69, 70) and eight reported null findings for both weight and length (14, 23, 41, 47, 64, 67, 71, 72). Of the articles that found significant relationships, the direction of findings was inconsistent. In eight of the 24 studies, there were no significant associations between timing of CFB relative to length/height (13, 16, 36, 37, 39, 55, 65, 70), but either positive (13, 55) or negative associations relative to weight (36, 37, 39, 65, 70). Several observational studies found negative associations between timing of CFB and length/height, such that either earlier introduction of CFB was associated with greater length/height, or later introduction of CFB was associated with shorter length/height (18, 20, 27, 69(8, 17), but found either no significant association with weight (10, 59) or negative associations with weight (8, 17). The studies with mixed findings also varied based on the timing of CFB introduction, age at which outcome was assessed, or the type of CFB introduced.

Across the studies that examined the relationship between timing of introduction of CFB and weight and length/height, most studies also examined the relationship between timing of CFB introduction and at least one other relevant outcome with potential health implications (e.g., obesity, adiposity, weight-to-height indices). Huh et al. examined obesity at age 3 y in addition to weight, length, weight-to-height ratios, and adiposity outcomes (37). As noted in the section on weight status results, all of the significant associations that Huh et al. identified were found in FF infants, and no associations were found in BF infants (when comparing CFB introduction <4 vs. 4-5 mo, or ≥6 vs. 4-5 mo). Other articles also examined adiposity outcomes, in addition to weight and length (10, 14, 17, 67, 70). A few studies shared the same direction of findings for weight and adiposity but the findings across these studies were inconsistent in terms of direction, age of outcome assessment (e.g., weight at 6-12 mo but adiposity at 5-6 y), and specific timing interval for CFB introduction. For example, Wilson et al. (70 (Wilson, 1998 #105) found a negative association between timing of CFB (<15 vs. >15 wk) and weight as well as FM at 7 y, but found no relationship with height at 7 y. deBeer et al. (17) found that timing of CFB (<4 vs. >6 mo) was negatively associated with conditional weight at 6-12 mo, height at 6-12 mo, and FMZ at 5-6 y, but the association with FMZ at 5-6y was no longer significant after fully adjusting models and there were no associations with other outcomes (e.g., BMIZ, FFMZ).

Head, arm, and thigh circumference

Timing of CFB introduction was not significantly associated with head circumference (HC) in most of the articles in this SR that examined body circumferences (8 articles total: 3 from observational studies discussed here and 5 from 2 RCTs previously discussed). These null findings were observed at various ages, ranging from approximately 6 mo to ~3 y of age, and when HC was examined at a single time point, or when change in HC over time was considered. One observational study (44) reported that introduction of cereal at 3mo of age, but not at 6 or 9 mo, was associated with lower HC from 3-6 mo. Notably, cereals consumed in that study were not representative of infant cereals consumed in the U.S. and only 1.2% of the children were consuming cereals at 3 mo. In addition, that study is limited by the potential for reverse causality and use of unstandardized anthropometric assessments.

Only two studies in this SR, one from an RCT previously discussed and one observational study, examined other circumferences (arm, thigh, and chest); differences between groups were not significant at 26 wk, from 16-26 wk, or between 6-24 mo of age (1, 14). Although these two studies had minimal methodological limitations, they varied in study design and assessment of timing of CFB.

Table 1. Studies that examined the timing of introduction of complementary oods and beverages and growth, size, and body composition

Reference, country, analytic sample size	Intervention/ Exposure	Weight Status Results	Body Composition Results	Weight Results	Length or Height Results	Head, Arm, Thigh Circumference Results
Randomized Controlled Trials						
Bainbridge, 1996 (1) U.S. N: 41	CFB at 16wk vs. EFF 16-26wk		Suprailiac skinfold thickness at age 26wk, NSGD; change from age 16-26wk, -0.20mm, SD: 0.80 vs. -0.92mm, SD:1.25, P=0.04. Mid-thigh, triceps, or subscapular skinfold thickness at age 26wk or change from age 16-26wk, NSGD; abdominal circumference at age 26wk or change from age 16-26wk, NSGD; Chest, MUAC, mid-thigh circumference at age 26wk or change from age 16-26wk, NSGD	Weight change at age 26wk or from age 16-26wk, NSGD	Length change at age 26wk, NSGD; change from age 16-26wk, 5.03, SD: 1.05 vs. 3.62, SD:2.72, P=0.05.	HC at age 26wk or change from age 16-26wk, NSGD
Jonsdottir, 2012 (4) Iceland N: 100	CFB at 4mo vs. EBF 4-6mo			Weight gain from age birth-6mo or 4-6mo, NSGD	Length gain from age birth-6mo or 4-6mo, NSGD	HC gain from age birth-6mo or 4-6mo, NSGD
Jonsdottir, 2013 (3) Iceland N: 54-78	CFB at 4mo vs. EBF 4-6mo					HC gain from age birth-18mo, NSGD
Jonsdottir, 2014 (2) Iceland	CFB at 4mo vs. EBF 4-6mo	Overweight, overweight, or obesity at age 18mo,	BMI-for-age at age 18mo, or 29-38mo,	WAZ at age 18mo, or 29-	LAZ at age 18mo, or 29-	HC-for-age at age 18mo, or 29-38mo,

N: 100		or 29-38mo, NSGD	NSGD	38mo, NSGD	38mo, NSGD	NSGD
Wells, 2012 (5) Iceland N: 100	CFB at 4mo vs. EBF 4-6mo		BMI, lean mass, or FM at age 6mo, NSGD	Weight at age 6mo, NSGD	Length at age 6mo, NSGD	HCZ at age 6mo, NSGD
Prospective cohort studies						
Abraham, 2012 (6) Scotland N: 3994	4-5 vs. 0-3mo	Overweight/obesity at age 4y, OR=0.74, 95% CI:0.57, 0.97, P=0.009				
	6-10 vs. 0-3mo	Overweight/obesity at age 4y, OR=0.72, 95% CI: 0.48, 1.09, P=0.009				
Agras, 1990 (7) U.S. N: 54	Continuous, wk		BMI at age 1y: partial r^2=0.096, P=0.03; BMI at age 2y: partial r^2=0.129, P=0.02; BMI at age 3y: partial r^2=0.148, P=0.01; BMI at age 6y: NSA Skinfold thickness at age 1, 2, or 6y, NSA			
Atkins, 2016 (8) Australia N: 423	<6 vs. ≥6mo			Weight at age 20mo: mean difference 0.4kg, 95% CI: 0.1, 0.7, P=0.006	Length at age 20mo: mean difference of 0.9cm, 95% CI: 0.2, 1.7, P= 0.010	
Ay, 2008 (9) Netherlands N: 1012	<5 mo or not		Sum skinfold thickness at age 24mo: NSA			
Baird, 2008 (10) U.K. N: 1,740 at 6mo; 1335 at 12mo	<3 vs. ≥5mo		Gain in skinfold thickness from age birth-6mo, or skinfold thickness at age 6mo:	Weight gain from age birth-6mo or mean weight at 6mo:	Length gain from age birth-6mo or mean length at age 6mo, NSA	

			NSA	NSA		
	at 3 vs. ≥5mo		Gain in skinfold thickness from age birth-6mo, or skinfold thickness at age 6mo: NSA	Weight gain from age birth-6mo or mean weight at 6mo: NSA	Length gain from age birth-6mo: β=0.21, 95% CI: 0.02, 0.39, P<0.05. Mean length at age 6mo: β=0.68, 95% CI: 0.27, 1.08, P<0.05.	
	at 4 vs. ≥5mo		Gain in skinfold thickness from age birth-6mo, or skinfold thickness at age 6mo: NSA	Weight gain from age birth-6mo or mean weight at 6mo: NSA	Length gain from age birth-6mo or mean length at age 6mo, NSA	
Baker, 2004 (11) Denmark N: 3,768	<16 vs. ≥16wk, BF for <20wk			Weight gain from age birth-1y: β=365.1, SE: 82.9, P<0.0001		
	<16 vs. ≥16wk, BF for >20-40wk			Weight gain from age birth-1y, NSA		
Barrera, 2016 (12) U.S. N: 1181	<4, 4–<6, and ≥6mo	Obesity at age 6y: NSA				
Barton, 2002 (13) U.S. N: 52	<4 vs. >4mo			Weight at age 4-6mo: 263.7 ± 30.9oz. vs. 291.4 ± 44.8oz., P=0.04	Length at age 4-6mo: NSA	HC at age 4-6mo: NSA
Butte, 2000 (14) U.S. N: 72	Continuous, among BF or FF infants		Between age 6-24mo: triceps, flank, subscapular, or quadriceps skinfold thickness, NSA; FM, FFM, % FM,	Between age 6-24mo: Weight, NSA	Between age 6-24mo: Length, NSA	Between age 6-24mo: HC, NSA

			NSA; Chest, arm, thigh circumferences, NSA		
Cantoral, 2016 (15) Mexico N: 227	≤12 vs >12mo	Obesity at 8-14y: NSA	Abdominal obesity at age 8-14y, NSA		
Carruth, 2000 (16) U.S. N: 94	Continuous			Rate of weight change from age 12-24mo, NSA	length slope from age 2-8mo, NSA
de Beer, 2015 (17) Netherlands N: 2227	>6 vs. <4mo		At age 5-6y: FMZ β=−0.23; 95%CI: −0.39, −0.08, P=0.004 final model, NSA; FFMZ, NSA; BMIZ, NSA	Conditional weight z-scores from age 6-12mo: β=−0.21, 95%CI: −0.38, −0.03, P=NR	Conditional height z-scores from age 6-12mo: β=−0.20; 95%CI: −0.37, −0.02, P=NR; Height z-scores at age 5-6y: β= −0.13; 95%CI: −0.25, −0.01, P=NR
	4-6 vs. <4mo		At age 5-6y, FMZ, NSA; FFMZ, NSA; BMIZ, NSA	Conditional weight z-scores from age 6-12mo: NSA	Conditional height z-scores from age 6-12mo: NSA; Height z-scores at 5-6y: β= −0.13; 95%CI: −0.25, −0.01, P=NR
Durmus, 2012 (19) Netherlands N: 779	<4 vs. >5mo		Peripheral, central, or total FM at ages 6mo or 24mo, NSA		
	4-5 vs. >5mo		Total FM at age 24mo: β=1.46, 95% CI: 0.05, 2.88, P=0.08. Peripheral, central, or		

			total FM at age 6mo, peripheral or central FM at age 24mo, NSA		
Durmus, 2014 (18) Netherlands N: 5063	<4, 4-4.9, ≥5mo	Overweight or obesity at age 6y: NSA	Total FM, android-gynoid fat ratio, or BMI at age 6y, NSA; Abdominal fat at age 6y, NSA		
Ejlerskov, 2015 (20) Denmark N: 233	Continuous, mo		FMI or FFMI at age 3y, data NR, NSA		
Fairley, 2015 (21) U.K. N: 987	<17 or ≥ 17wk	Overweight at age 36mo: NSA	BMIZ at age 36mo: NSA		
Fawzi, 1997 (22) Israel N: 351	1mo vs. EBF			Weight at age 2mo: 4753 vs. 5113g, P≤0.05; Weight at age 3mo: NSA	
	2mo vs. EBF			Weight at age 3mo: NSA	
Ferris, 1980 (23) U.S. N: 92	2 or >2mo		Weight/length^2 from age birth-6mo: NSA	Weight from age birth-6mo: NSA	Length from age birth-6mo: NSA
Flores, 2013a (24) U.S. N: 6800	Continuous, mo	Overweight at kindergarten entry: NSA			
	<3.5 vs. ≥3.5mo, not overweight at preschool, overweight at 2y, White, no maternal gestational diabetes	58% vs. ~25.7% prevalence of overweight			
Flores, 2013b	Continuous, mo	Obesity at kindergarten			

(25) U.S. N: 6800		entry: NSA		
Forsyth, 1993 (26) Scotland N: 671 at 4wk; 584 at 8wk; 576 at 13wk; 544 at 26wk; 548 at 52wk; 392 at 104wk	<8 vs. 8-12wk			Weight at ages: 4wk, NSGD; 8wk, NSGD; 13wk, NSGD; 26wk, NSGD; 52wk, NSGD; 104wk, NSGD
	<8 or 8-12 vs. >12wk			Weight at ages: 4wk, 4.273 or 4.234 vs. 4.139 kg, P=0.001; 8wk, 5.11 or 5.087 vs. 4.960kg, P=0.003; 13wk, 6.051 or 5.972 vs. 5.779kg, P=0.006, 26wk, 7.781 or 7.692 vs. 7.418kg, P=0.009; 52wk, NSGD; 104wk, NSGD
Friel, 1985 (27) Canada N: 110	NR			Weight at age 12mo: NSA
Gaffney, 2012 (28) U.S. N: 691	≥6 vs. <4mo			WAZ at age 12mo: β=-0.34, P<0.05
	4-6 vs. <4mo			WAZ at age 12mo: NSA
Garden, 2012 (29) Australia N: 370	≤3 or >3mo		BMI trajectory from age birth-11.5y in boys, NSA; in girls, NSA	

Gibbs, 2014 (30) U.S. N: 7,880	<4mo vs. not	Obesity at age 24mo: **CDC**, OR=1.40; 95%CI: 1.14, 1.72, P<0.01; **WHO**, OR=1.21; 95%CI: 1.04, 1.41, P<0.05; **IOTF low**, OR=1.21; 95%CI: 1.09, 1.49, P<0.01. **IOTF high**, OR=1.34; 95%CI: 1.08, 1.65, P<0.01			
Griffiths, 2009 (31) U.K. N: 10,533	<4 vs. ≥4mo			Conditional weight gain from age birth-3y: β=0.07; 95%CI: 0.02, 0.11, P=0.005 but after adjusting for current child height, NSA	
Griffiths, 2010 (32) U.K. N: 11,653	<17.4 vs. ≥17.4wk			Rapid weight gain from age 3-5y: NSA	
Grote, 2011 (33) U.K./EU N: 687, at 24mo	≤13, 14–17, 18–21, and ≥22wk		WLZ, BMI, or BMIZ at age 24mo: NSA; BMI-for-age trajectories until age 24mo, P=0.011	WAZ at age 24mo: ≤13wk 0.40±1.01; 14-17wk 0.31±0.98; 18-21wk 0.53±0.82; ≥22wk 0.23±0.91, P=0.027; Weight at age 24mo, NSA; Weight velocity (kg/mo) at age 24mo, NSA;	LAZ at age 24mo: ≤13wk 0.14±1.09; 14-17wk 0.18±1.01; 18-21wk 0.39±0.97; ≥22wk 0.18±0.93, P=0.049 Length (cm) at age 24mo, NSA; Length velocity (cm/mo) at age 24mo, NSA; Length-for-age

				Weight-for-age trajectories until age 24mo, P=0.005	trajectories until age 24mo, NSA
Haschke, 2000 (34) Austria, Germany, Spain, France, Greece, U.K., Hungary, Croatia, Italy, Ireland, Portugal, Sweden N: 1,071	CFB <4mo + BF vs. EBF 4-6mo		Mean BMIZ at ages: 1mo, -0.09 vs. 0.38, P<0.05; 2mo, -0.21 vs. 0.35, P<0.05; 3mo, -0.36 vs. 0.23, P<0.05; 4mo, -0.46 vs. 0.10, P<0.05; 5mo, -0.54 vs. 0.12, P<0.05; 6mo, -0.50 vs. 0.10, P<0.05; 9mo, -0.39 vs. 0.05, P<0.05; 12mo, -0.31 vs. 0.05, P<0.05; 18mo, -0.29 vs. -0.02, P<0.05; 30mo, -0.20 vs. 0.15, P<0.05; 36mo, -0.32 vs. 0.18, P<0.05 at birth and 24mo, NSGD	Mean WAZ at ages: 3mo, -0.18 vs. 0.13, P<0.05; 4mo, -0.37 vs.-0.04, P<0.05; 5mo, -0.40 vs. -0.10, P<0.05; 6mo, -0.44 vs. -0.10, P<0.05; at birth, 1, 2, 9, 12, 18, 24, 30, or 36mo, NSGD	Mean LAZ at ages: 1mo, 0.22 vs. -0.05, P<0.05; 2mo, 0.25 vs. -0.09, P<0.05; 3mo, 0.17 vs. -0.09, P<0.05; 5mo, 0.06 vs. -0.32, P<0.05; 6mo, -0.05 vs. -0.31, P<0.05; 36mo, 0.03 vs. -0.30, P <0.05; At ages: birth, 9, 12, 18, 24, or 30mo, NSA
	Continuous, mo		BMI gain (kg/m^2/y) from ages: 1-12mo, t=3.2, P=0.002; 1-24mo, NSA; 1-36mo, NSA	Weight gain (g/mo) from ages: 1-12mo, t=3.0, P=0.002; 1-24mo, NSA	Length gain (mm/mo) from ages 1-12mo, NSA; 1-24mo, t: 2.5, P=0.01
Hawkins, 2009 (35) U.K. (England, Wales, Scotland, Northern Ireland) N: 13,188	<4 vs. ≥4mo	Overweight or obesity at age 3y: OR=1.12, 95%CI: 1.02, 1.23, P<0.05			

Heinig, 1993 (36) U.S. N: 87 (N: 46 BF; N: 41 FF at 9mo)	BF: <26 vs. ≥26wk		WLZ from age 1-18mo, NSA	WAZ: from age 1-18mo, NSA; Weight gain from ages: 6-9mo, P<0.05; birth-4mo, 4-6mo, or 9-12mo, NSA	LAZ from age 1-18mo, NSA; Length gain from ages: birth-4mo, 4-6mo, 6-9mo, or 9-12mo, NSA
	FF: Continuous; <20 vs. ≥20wk			WAZ from age 1-18mo, NSA	LAZ from age 1-18mo, NSA Length gain from birth-4mo, 4-6mo, 6-9mo, or 9-12mo, NSA
Huh, 2011 (37) U.S. N: 847	<4 vs. 4-5mo, BF	Odds or prevalence of obesity at age 3y: NSA	BMI at age 3y, NSA; BMIZ at age 3y, NSA; Skinfolds at age 3y, NSA	Weight at age 3y, NSA; WAZ at 3y, NSA	Height or HAZ at age 3y, NSA
	<4 vs. 4-5mo, FF	Obesity at age 3y: OR=6.3; 95%CI: 2.3, 6.9, P<0.01; Prevalence of obesity, 25.2% vs. 4.9%, P<0.0001	BMIZ at age 3y: β=0.36; 95%CI: 0.10, 0.61, P=0.004; BMI at 3y: mean 17.2, SD:1.9 vs. 16.5, SD:1.5, P=0.004; Skinfolds at age 3y: NSA	Weight at age 3y: 16.7± 2.7kg vs. 15.8± 2.3g; P=0.01; WAZ at 3y: 0.92±1.1 vs. 0.55± 0.9, P=0.02	Height at age 3y, NSA; HAZ at 3y, NSA
	≥6 vs. 4-5mo, BF	Odds or prevalence of obesity at age 3y: NSA	BMIZ at age 3y, NSA; Skinfolds at age 3y, NSA	Weight at age 3y, NSA; WAZ at 3y, NSA	Height at age 3y, NSA; HAZ at 3y, NSA
	≥6 vs. 4-5mo, FF	Odds of obesity at age 3y, NSA; Prevalence of obesity, 16% vs. 4.9%, P=0.06	BMIZ at age 3y, NSA; Skinfolds at age 3y, NSA	Weight at age 3y: 16.6± 2.7kg vs. 15.8± 2.3kg, P=0.01; WAZ, NSA	Height at age 3y, NSA; HAZ at 3y, NSA

Imai, 2014 (38) Iceland N: 154	CFB+BF (n=57) vs. EBF (n=62) at 5mo		BMI at 6y, NSA	Weight at ages 6 or 18mo, NSA; at 12mo: 10.1± 1.2 vs. 9.6± 0.9kg, P<0.05; Mean weight change from ages: birth-6mo, 360g, 95%CI: 58, 661, P<0.05; birth-12mo, 462g, 95%CI: 92, 831, P<0.05; 6-12mo, NSA; 12-18mo, NSA	Length at ages: 6mo, 69.1± 2.3cm vs. 68.3± 2.0cm, P<0.05; 12mo, NSA; 18mo, NSA
Johnson, 2014 (39) U.K. N: 4251	≥6mo (n=1364) or 5mo (n=1667) vs. <4mo (n=1714)			Weight at age 6mo: ≥6mo: -102g, SE: 25g; 5mo: -40g, SE: 24g, P<0.0001. Growth velocity at age NR: ≥6mo: 4.9%, SE: 1.1%, 5mo: 1.4%, SE: 1% vs.<4mo: 6.8%, SE: 1.3%, P<0.0001. Tempo at age NR, NSA	
Kalies, 2005 (40) Germany N: 2,337	1-3 vs. >6mo			Risk of elevated weight gain at age 24mo: OR=1.31, 95%CI: 1.17, 2.30	

	4-6 vs. >6mo			Risk of elevated weight gain at age 24mo: OR=1.49, 95%CI: 0.97, 2.28		
Khadivzadeh, 2004 (41) Iran N: 193	CFB at 4mo vs. EBF 4-6mo			Weight at age 5mo, NSA; 6mo, NSA; Weight gain from 4-6mo, NSA	Length at ages: 5mo, NSA; 6mo, NSA; gain from 4-6mo, NSA	
Kramer, 1985 (43) Canada N: 347	Continuous		Skinfold thickness at age 24mo, NSA; BMI at age 24mo, NSA	Weight at age 24mo, NSA		
Kramer, 1985b (42) Canada N: 382	Continuous		Skinfold thickness at age 12mo, β=-0.141, r^2=0.038, P=0.002; BMI at 12mo, NSA	Weight at ages: 6mo β=-0.178, P<0.001; 12mo β =-0.198, P<0.001		
Kramer, 2004 (44) Belarus N: 17,046	Cereals at 3, 6, or 9mo		WLZ from ages 3-6, 6-9, 9-12mo, NSA	WAZ from ages: 3-6mo, β=-0.293, 95% CI: -0.386, -0.199, P=NR; 6-9mo, NSA; 9-12mo, NSA	LAZ from ages: 3-6mo, β=-0.240, 95% CI: -0.353, -0.127, P=NR; 6-9mo, NSA; 9-12mo, NSA	HC from ages 3-6mo, β=-0.291, 95% CI: -0.463, -0.120, , P=NR; HC 6-9, 9-12mo, NSA
	Other solids at 1, 3, 6, or 9mo		WLZ from ages 1-3, 3-6, 6-9, 9-12mo, NSA	WAZ from ages 1-3, 3-6, 6-9, 9-12mo, NSA	LAZ from ages 1-3, 3-6, 6-9mo, NSA; 9-12mo, β=-0.082, 95% CI: -0.156, -0.008, P=NR	HC from ages 1-3, 3-6, 6-9, 9-12mo, NSA
	Juices/other liquids at 1, 3, 6, or 9mo		WLZ from ages 1-3, 3-6, 6-9mo, NSA; 9-12mo, β=-0.061, 95% CI: 0.003, 0.119, P=NR	WAZ from ages 1-3, 3-6, 6-9, 9-12mo, NSA	LAZ from ages 1-3, 3-6, 6-9, 9-12mo, NSA	HC from ages 1-3, 3-6, 6-9, 9-12mo, NSA

Kuperberg, 2006 (45) Canada N: 71	Continuous; <4mo Y/N	Odds of overweight at age 48mo, NSA			
Lande, 2005 (46) Norway N: 1441	≤4, 4-5, >5mo		BMI at age 12mo, NSA		
Lauver, 1981 (47) U.S. N: 77	≤5 or >5mo			Weight at age 6mo, NSA	Length at age 6mo, NSA
Layte, 2014 (48) Ireland N: 11,134	<4vs. ≥6mo	Risk of obesity at age 3y, NSA		Rapid weight gain from age 9mo-3y, NSA; birth-9mo: OR=1.5, P<0.001	
.	<5 vs. ≥6mo	Risk of obesity at age 3y, NSA		Rapid weight gain from age 9mo-3y, NSA; birth-9mo: OR=1.34, P=0.00	
.	<6 vs. ≥6mo	Risk of obesity at age 3y, NSA		Rapid weight gain from age 9mo-3y, NSA; birth-9mo: OR=1.37, P=0.00	
Leary, 2015 (49) U.K. N: 4,750	3 or ≥4 vs. ≤2mo		Lean mass or FM at age 15y, NSA		
Makela, 2014 (50) Finland N: 848	Continuous, mo;	Risk of overweight or obesity at age 24mo, NSA		Weight gain from age birth to 24mo, NSA	
	<4, 4-6, >6mo			Weight gain, from age birth-24mo, NSA	

Moss, 2014 (51) U.S. N: 7200 at 2y; 6950 at 4y	<4 vs. 4-5mo	Obesity at age 2y: OR=0.62; 95%CI: 0.50, 0.78, P<0.001; at 4y, NSA; Healthy weight status at age 2y or 4y, NSA			
	<4 vs. ≥6mo	Obesity at age 2y: OR=0.70; 95%CI: 0.52, 0.92; P<0.05; at 4y, NSA; Healthy weight status at 2y or 4y, NSA			
Neutzling, 2009 (52) Brazil N: 1204	<4, >4mo	Overweight or obesity risk at age 11y, NSA			
Pan, 2014 (53) U.S. N: 1189	<6mo vs. never	Obesity at age 6y, OR=1.92, 95%CI: 1.01, 3.66, P<0.05			
	<6 vs. ≥6mo	Obesity at age 6y, NSA			
	Never vs. ≥6mo	Obesity at age 6y, NSA			
Piwoz, 1996 (54) Peru N: 140	<4 BF/FF+CFB vs. >4mo BF/FF			Gained less weight from age birth-3mo; more weight after age 3mo, data NR	
Quandt, 1984 (55) U.S. N: 45	<4 vs. >4mo		WLZ at ages: 3mo, t= 2.55, P<0.05; 4mo, t= 2.37, P<0.05; 5mo, t= 3.50, P<0.01; 6mo, t= 2.56, P<0.05	Weight at ages: 3mo, t=2.35, P<0.05; 4mo, t= 2.67, P<0.01; 5mo, t=2.58, P<0.01; 6mo, NSA	Length at ages: 1, 2, 3, 4, 5, or 6mo, NSA
Reilly, 2005 (56) U.K. N: 5493	<1, 1-2, 2-3, 3-4, 4-6, >6mo	Obesity at age 7y, NSA			
Robinson, 2009 (57) U.K. N: 536	NR		At age 4y: BMI, NSA; lean mass, NSA; lean mass index, NSA; FM,		

			NSA; FMI, NSA		
Rossiter, 2013 (58) Canada N: 377	<4, >4mo	Normal or underweight vs. overweight or obesity prevalence at age 4y, NSA			
Salmenpera, 1985 (59) Finland N: 113 at 6-9mo, 84 at 9-12mo	CFB >6mo vs. EBF 6-9 or 9-12mo			Weight velocity from ages 3-9, 6-9, 9-12, or 6-12mo, all NSA	Length velocity from ages: 3-9, 6-9mo, NSA; 6-12mo, 91.7, SE: 1.8 vs. 89.3, SE: 1.9, P<0.05; 9-12mo: 100.1, SE: 2.0 vs. 87.5, SE: 7.7, P<0.05
Santorelli, 2014 (60) U.K. N: 1327	<17 vs. >17wk		BMIZ at age 3y, NSA		
Schack-Nielsen, 2010 (61) Denmark N: 5068	Spoon-feeding: continuous, mo	At age 42y, overweight or obesity, NSA	BMI ages: 1-34y, NSA; 42y, β=-0.046, 95%CI: -0.86, -0.006, P=0.03; WC at age 42y, β=-0.25cm/mo; 95%CI: -0.49, -0.01		
	Spoon-feeding, ≥4 vs <4mo	Lower risk of overweight at age 42y, P=0.053			
Seach, 2010 (62) Australia N: 307	Continuous, wk	Risk of "above healthy" BMI at age 10y, β=0.903, 95%CI: 0.841, 0.970, P=0.005			
van Rossem, 2013 (63) Netherlands N: 3184	0-3, 3-6, >6mo		WHZ change from age 12-45mo, NSA		

Victora, 1998 (64) Brazil N: 627	<3, >3mo		Ponderal index from age 3-6mo, NSA	Weight gain from age 3-6mo, NSA	Length gain from age 3-6mo, NSA
Villalpando, 2000 (65) Mexico N: 170	Continuous			Weight gain from age 0-6mo, -104g, SE: 1.67, P=0.03	Length gain from age 0-6mo, NSA
Warrington, 1988 (66) U.K. N: 78	Continuous, wk			Weight at age 1y or 2y, NSA	
Wells, 1998 (67) U.K. N: 20	<12 vs. >12wk		Skinfold thickness, FM or FFM at age 2-3.5y, NSA	Weight at age 2-3.5y, NSA	Height at age 2-3.5y, NSA
Wen, 2014b (68) Australia N: 242	3-5 vs. <2mo	Overweight/obesity at age 2y, OR=0.15, 95%CI: 0.03, 0.55, P<0.005	BMI at age 2y, NSA		
	≥6 vs. <2mo	Overweight/obesity at age 2y, OR=0.14, 95%CI: 0.04, 0.47, P<0.005	BMI at age 2y, NSA		
WHO, 2002 (69) China, India, Guatemala, Nigeria, Chile, Sweden, Australia N: 1252	1-8 vs. 17-24wk			Weight or weight velocity at age 8wk, NSA Weight at 24wk, 49.6g, SE: 18.5, P=0.028; Weight velocity at 24wk, 3 g/wk, SE: 1.17, P=0.035	Length at age 8wk, -1.803mm, SE: 0.311, P=0.001; Length velocity at age 8wk, -0.192 mm/wk, SE: 0.08, P=0.049; Length or length velocity at age 24wk, NSA

	9-16 vs 17-24wk		Weight at age 8wk, -56.6g, SE: 15, P=0.002; Weight velocity at age 8wk, -6.8g/wk, SE: 2.55, P=0.029; Weight at age 24wk, 51.6g, SE: 16.8, P=0.012; Weight velocity at age 24wk, NSA	Length at age 8wk, -2.368mm, SE: 0.278, P=0.001; Length velocity at age 8wk, NSA. Length at age 24wk, 1.486mm, SE: 0.283, P=0.001; Length velocity at age 24wk, NSA
	25-32 vs. 17-24wk		Weight or weight velocity at ages 8wk or 24wk, NSA	Length at ages 8wk or 24wk, NSA; Length velocity at ages: 8wk, NSA; at 24wk, -0.151 mm/wk, SE: 0.038, P=0.001
Wilson, 1998 (70) U.K. N: 545	<15 vs. >15wk	% body fat at age 7y, 18.5%, 95%CI: 18.2%, 18.8% vs. 16.5%, 95%CI: 16.0%, 17.0%, P<0.01; BMI at age 7y, NSA	Weight SD score at age 7y, 0.02, 95%CI: -0.02, 0.06 vs. -0.09, 95%CI: -0.16, 0.02; P<0.025	Height at age 7y, NSA
Wolman, 1984 (71) U.S. N: 164	<12, >13wk	BMI at age 4-6y, NSA	Weight at age4-6y, NSA	Height at age 4-6y, NSA
Woo, 2013 (72) U.S., Mexico, China N: 285	Continuous, mo	BMIZ at age 1y, NSA	WAZ at age 1y, NSA	LAZ at age 1y, NSA

Worobey, 2009 (73) U.S. N: 96	Continuous, mo			Weight gain from age 3-6mo, NSA
Worobey, 2014 (74) U.S. N: 154	Continuous, mo			Weight gain from age 3-6mo, NSA
Yeung, 1981 (75) Canada N: 316	<2 vs. >2mo		Sum of skinfold thickness at age 6mo, NSA	
Zheng, 2015 (76) China N: 40,510	CFB, ≤3 vs. 4-6mo	Overweight at age 4-5y, OR=1.11; 95%CI: 1.03, 1.19; P=0.038; Obesity at age 4-5y, NSA	BMI at age 4-5y, P<0.001	
	CFB, 4-6 vs. >6mo	Overweight or obesity at age 4-5y, NSA	BMI at age 4-5y, NSA	
Retrospective cohort studies				
Burdette, 2006 (77) U.S. N: 313	No solids <4mo+ no sugar-sweetened beverages < 6mo vs. not	Prevalence of overweight at age 5y, NSA	Mean FM at age 5y, high % body fat at age 5y; BMIZ at 5y, NSA	
Nested case-control/case-control studies				
Bammann, 2014 (78), Nested case-control; Belgium, Cyprus, Estonia, Germany, Hungary, Italy, Spain and Sweden N: 1024	<4mo	Obesity risk at age 2-9y, NSA		

Gungor, 2010 (79) U.S. N: 129	Continuous, mo in non-overweight vs. overweight at 6-8y	Mean 6.49, SD: 2.80 mo vs. 5.10 SD: 1.80 mo, P=0.007
Hui, 2003 (80) China N: 343	<4mo Y/N	Prevalence of overweight, normal-middle weight, or normal-low weight at age 6-7y, NSA
Zhou, 2011 (81) China N: 162	<4 vs. 4-6mo	Obesity at age 3-6y, OR=10.96; 95%CI: 2.08, 21.64, P=0.007
	4-6 vs. >6mo	Obesity risk at age 3-6y, NSA

1. The independent variable/exposure of interest included timing of CFB introduction.
2. Outcomes were categorized in accordance with the analytical framework (also see Figure 1). Results were extracted from multivariate-adjusted analyses wherever possible rather than univariate analyses, crude, and/or unadjusted measures. Standard deviation (SD) or standard error of the mean (SE) are indicated.

Abbreviations: CFB, complementary food/beverage; BF, breast-fed; FF, formula-fed; FM, fat mass; FFM, fat-free mass; FMI, fat mass index; FFMI, fat-free mass index; FMZ, fat mass z-score, FFMZ, fat-free mass z-score; NR, not reported; NSA, no significant associations; NSGD, no significant group differences; SD, standard deviation; SE, standard error of the mean

Discussion

Moderate evidence suggests that first introduction of any CFB between 4-5 mo compared to approximately 6 mo of age is not associated with differences in weight status, body composition, body circumferences, weight or length among generally healthy, full-term infants. Limited evidence suggests that introducing CFB before 4 mo of age may be associated with higher odds of overweight/obesity. There is not enough evidence to determine the relationship between introduction of CFB at > 7 mo of age on growth, size, or body composition.

With the exception of the five included articles from two RCTs, which have a stronger study design relative to the observational studies, little evidence was provided to permit evaluation of causal relationships between timing of CFB introduction and growth, size, body composition, and/or weight status. The majority of included evidence came from prospective cohort studies (71 of 81 articles). Authors of three articles (both RCTs) noted limitations regarding sample size (1-3). Many of the observational studies (35 of 75) did not account for high rates of attrition/missing data but some did have large sample sizes to investigate the relationship between timing of introduction to CFB and growth, size, body composition, and/or weight status.

The majority of studies included in this SR were consistent across the body of evidence in terms of direction and statistical significance of findings, reporting no significant association between timing of CFB introduction and outcomes in terms of weight status (14 of 28 articles), body composition (*adiposity:* 14 of 19 articles, *weight-to-height:* 19 of 29 articles, and *central adiposity:* 4 of 5 articles), weight and length/height (18 of 28 articles), and/or head, arm, or thigh circumferences (7 of 8 articles). The evidence is strongest for studies examining introduction of CFB at approximately age 4 mo compared to 6 mo, which includes two RCTs (1-5). For the remaining observational studies that make up the body of evidence, there were considerable methodological limitations and inconsistencies in both the magnitude of observed effects and direction of findings. There was sufficient consistency among the observational studies reporting higher odds of overweight/obesity or weight when comparing very early (<4 mo) relative to later CFB introduction (various time points), such that a limited conclusion was warranted. Few studies examining growth, size, and/or body composition made an attempt to more specifically differentiate introduction at 4-5 vs. 6 mo of age. Combining participants into categories such as CFB ≥ 6 mo made comparisons across the body of evidence difficult, such that no conclusion was drawn regarding the introduction of CFB at age 7 mo or older. There was also inconsistency across studies in the body of evidence with respect to several factors: milk-feeding practices, the specific type of CFB that were introduced, the specific age interval when CFB were introduced, which outcomes were considered, and the age at which the outcome was measured.

Most studies in this SR directly examined timing of introduction of CFB and the outcomes of interest but varied in practical/clinical significance. Consideration of a broader-spectrum of growth-related outcomes than were included in many of the studies in this body of evidence may have led to stronger conclusions. For example, studies that examined weight status tended to report only weight status and not multiple outcomes, which would have provided important contextual information to aid in the interpretation of weight status results. Any relationships observed within this body of evidence must be interpreted with caution, as earlier (i.e., human milk/infant formula) and later (toddler) feeding practices associated with CFB introduction may have stronger influences on growth, size, body composition, and/or weight status.

Overall, there was good generalizability with respect to the U.S. population. However, several studies were conducted in populations that were less similar to the U.S. population. For example, studies conducted in Israel, Peru, and Brazil enrolled participants, who either migrated from other countries with lower HDI or were from very disadvantaged populations (22, 54, 64, 68). In addition, some studies were less relevant to the U.S. due to differences in complementary feeding practices at the time the study was conducted and/or because they examined specific CFB that are less prominent as typical CFB in the U.S (15, 61, 76).

Limitations

A primary methodological limitation across the observational studies was the variability in controlling for confounding factors. The majority of observational studies did not account for more than one of the key confounders from the analytic framework. Of the studies that identified at least one significant association, many did not adjust for baseline anthropometric values and either adjusted for birth weight or reported anthropometric outcomes at multiple time points. The majority of articles (~80%) adjusted for feeding practices aside from complementary feeding but how feeding practices were accounted for varied across studies. For example, studies may have enrolled either BF or FF infants, enrolled both but analyzed BF and FF infants separately, adjusted for duration of BF or FF in analyses, or did not adjust analyses but reported no differences between groups at baseline. There was minor inconsistency across studies in the description of human milk, infant formula, and/or types and amounts of CFB consumed. The majority of studies commonly defined CFB as solids other than human milk or infant formula, but several studies also reported the age of introduction of specific types of CFB (9, 11, 15, 18, 19, 44, 60, 61, 76), which are discussed in more detail in a separate SR (83).

Another limitation is the limited reliability/validity of assessment methods for both timing of CFB introduction and outcome assessment. Several studies used reported, not measured, weight/height from various sources (11, 28, 39, 47, 61, 71). Several studies did not describe their methods to assess outcomes (1, 33) or used unstandardized methods (44). Although the majority of observational studies reported using ”standard procedures” for anthropometric measurements, many of the studies either lacked sufficient description of outcome assessment or indicated that measures were only collected once as opposed to in duplicate or triplicate (6, 8, 13, 22, 26, 31-34, 36-38, 40, 42-44, 46, 48, 50, 53, 55, 59, 64-67, 70, 76, 81). Another limitation common to the body of evidence was the assessment of timing of CFB introduction. Two studies did not clearly define their methods for analyzing timing of CFB introduction (27, 57). Multiple studies had distinct or unique ages at which they examined timing of CFB introduction (for examples see 25, 54, 69, 79), which does not allow for interpretation based on time points outside of those distinct or unique ages. Finally, many of the included articles examined CFB introduction <4 mo of age as the earliest category of introduction, with fewer relative comparison groups between 4-6 mo of age and/or >6 mo of age.

Finally, internal validity was a concern in several studies. In both of the RCTs, blinding of investigators could not be determined and participants were not blinded as they either received CFB or remained exclusively BF/FF. In the majority of the observational studies, blinding of outcome assessors could not be determined. Adequacy of statistical methods in several studies was insufficient due to either a lack of detail describing data or inconsistency of data reported (5, 16, 47, 54, 66) or difficulty in interpretation based on time points reported (69).

Research recommendations

- Future research should account for the substantial individual variability that is likely in terms of the ideal timing of CFB introduction, which may contribute to the relationship between timing of CFB and growth, size, body composition, and/or weight status in a given study population. Factors to consider include:
    - Parent rationale for ***timing*** of introduction of CFB (e.g., infant feeding style, infant demand, infant size/growth faltering, attitudes/beliefs, fear of inadequate milk supply, infant sleep promotion)
    - Plasticity across time (intrauterine, genetic, and/or environmental effects)
    - Predominant type of early milk feeding (e.g. exclusive breastfeeding or formula feeding or mixed)
- In studies examining the association between timing of CFB introduction and child growth, inclusion of multiple growth-related measures substantially aid interpretation of results.
- Observational studies should be a low priority, in particular those that examine only one outcome and/or categorize by CFB introduction before 4 mo of age, in favor of additional rigorous RCTs that examine multiple outcomes and/or CFB introduction between the ages of 4 mo and 6 mo or later.

Included articles

1. Bainbridge RR, Mimouni FB, Landi T, Crossman M, Harris L, Tsang RC. Effect of rice cereal feedings on bone mineralization and calcium homeostasis in cow milk formula fed infants. Journal of the American College of Nutrition. 1996;15:383-8.
2. Jonsdottir, O H, Kleinman, R E, Wells, J C, et al. Exclusive breastfeeding for 4 versus 6 months and growth in early childhood. Acta paediatrica (Oslo, Norway : 1992). 2014;103(1):105-11.
3. Jonsdottir, O H, Thorsdottir, I, Gunnlaugsson, G, et al. Exclusive breastfeeding and developmental and behavioral status in early childhood. Nutrients. 2013;5(11):4414-28.
4. Jonsdottir, O H, Thorsdottir, I, Hibberd, P L, et al. Timing of the introduction of complementary foods in infancy: a randomized controlled trial. Pediatrics. 2012;130(6):1038-45.
5. Wells, J C, Jonsdottir, O H, Hibberd, P L, et al. Randomized controlled trial of 4 compared with 6 mo of exclusive breastfeeding in Iceland: differences in breast-milk intake by stable-isotope probe. The American journal of clinical nutrition. 2012;96(1):73-9.
6. Abraham, E C, Godwin, J, Sherriff, A, et al. Infant feeding in relation to eating patterns in the second year of life and weight status in the fourth year. Public health nutrition. 2012;15(9):1705-14.
7. Agras, W S, Kraemer, H C, Berkowitz, R I, et al. Influence of early feeding style on adiposity at 6 years of age. The Journal of pediatrics. 1990;116(5):805-9.
8. Atkins, L A, McNaughton, S A, Campbell, K J, et al. Iron intakes of Australian infants and toddlers: Findings from the Melbourne Infant Feeding, Activity and Nutrition Trial (InFANT) Program. British Journal of Nutrition. 2016;115(2):285-93.
9. Ay, L, Hokken K, A C, Mook K, D O, et al. Tracking and determinants of subcutaneous fat mass in early childhood: the Generation R Study. International journal of obesity (2005). 2008;32(7):1050-9.
10. Baird, J, Poole, J, Robinson, S, et al. Milk feeding and dietary patterns predict weight and fat gains in infancy. Paediatric and perinatal epidemiology. 2008;22(6):575-86.

11. Baker, J L, Michaelsen, K F, Rasmussen, K M, et al. Maternal prepregnant body mass index, duration of breastfeeding, and timing of complementary food introduction are associated with infant weight gain. The American journal of clinical nutrition. 2004;80(6):1579-88.
12. Barrera, C M, Perrine, C G, Li, R, et al. Age at Introduction to Solid Foods and Child Obesity at 6 Years. Childhood obesity (Print). 2016;12(3):188-92.
13. Barton, S J, Howard, P K, Rayens, M K. The effects of infant feeding decisions on infant growth. Journal for specialists in pediatric nursing : JSPN. 2002;7(2):64-70.
14. Butte NF, Wong WW, Hopkinson JM, Smith EO, Ellis KJ. Infant feeding mode affects early growth and body composition. Pediatrics. 2000;106:1355-66.
15. Cantoral, A, Tellez R, M M, Ettinger, A S, et al. Early introduction and cumulative consumption of sugar-sweetened beverages during the pre-school period and risk of obesity at 8-14 years of age. Pediatric obesity. 2016;11(1):68-74.
16. Carruth BR, Skinner JD, Houck KS, Moran JD. Addition of supplementary foods and infant growth (2 to 24 months). Journal of the American College of Nutrition. 2000;19:405-12.
17. de Beer M, Vrijkotte TG, Fall CH, van Eijsden M, Osmond C, Gemke RJ. Associations of infant feeding and timing of linear growth and relative weight gain during early life with childhood body composition. International journal of obesity (2005). 2015;39:586-92.
18. Durmus, B, Heppe, D H, Gishti, O, et al. General and abdominal fat outcomes in school-age children associated with infant breastfeeding patterns. The American journal of clinical nutrition. 2014;99(6):1351-8.
19. Durmus B, Ay L, Duijts L, Moll HA, Hokken-Koelega AC, Raat H, et al. Infant diet and subcutaneous fat mass in early childhood: the Generation R Study. European journal of clinical nutrition. 2012;66:253-60.
20. Ejlerskov, K T, Christensen, L B, Ritz, C, et al. The impact of early growth patterns and infant feeding on body composition at 3 years of age. The British journal of nutrition. 2015;114(2):316-27.
21. Fairley, L, Santorelli, G, Lawlor, D A, et al. The relationship between early life modifiable risk factors for childhood obesity, ethnicity and body mass index at age 3 years: findings from the Born in Bradford birth cohort study. BMC obesity. 2015;2:9.
22. Fawzi, W W, Forman, M R, Levy, A, et al. Maternal anthropometry and infant feeding practices in Israel in relation to growth in infancy: the North African Infant Feeding Study. The American journal of clinical nutrition. 1997;65(6):1731-7.
23. Ferris, A G, Laus, M J, Hosmer, D W, et al. The effect of diet on weight gain in infancy. The American journal of clinical nutrition. 1980;33(12):2635-42.
24. Flores, G, Lin, H. Factors predicting overweight in US kindergartners. The American journal of clinical nutrition. 2013;97(6):1178-87.
25. Flores G, Lin H. Factors predicting severe childhood obesity in kindergarteners. International journal of obesity (2005). 2013;37(1):31-9.
26. Forsyth, J S, Ogston, S A, Clark, A, et al. Relation between early introduction of solid food to infants and their weight and illnesses during the first two years of life. BMJ (Clinical research ed). 1993;306(6892):1572-6.
27. Friel, J K, Gibson, R S, Kawash, G F, et al. Dietary zinc intake and growth during infancy. Journal of pediatric gastroenterology and nutrition. 1985;4(5):746-51.
28. Gaffney, K F, Kitsantas, P, Cheema, J. Clinical practice guidelines for feeding behaviors and weight-for-age at 12 months: a secondary analysis of the Infant Feeding Practices Study II. Worldviews on evidence-based nursing / Sigma Theta Tau International, Honor Society of Nursing. 2012;9(4):234-42.
29. Garden, F L, Marks, G B, Simpson, J M, et al. Body mass index (BMI) trajectories from birth to 11.5 years: relation to early life food intake. Nutrients. 2012;4(10):1382-98.

30. Gibbs, B G, Forste, R. Socioeconomic status, infant feeding practices and early childhood obesity. Pediatric obesity. 2014;9(2):135-46.
31. Griffiths, L J, Smeeth, L, Hawkins, S S, et al. Effects of infant feeding practice on weight gain from birth to 3 years. Archives of disease in childhood. 2009;94(8):577-82.
32. Griffiths LJ, Hawkins SS, Cole TJ, Dezateux C. Risk factors for rapid weight gain in preschool children: findings from a UK-wide prospective study. International journal of obesity (2005). 2010;34(4):624-32.
33. Grote, V, Schiess, S A, Closa M, R, et al. The introduction of solid food and growth in the first 2 y of life in formula-fed children: analysis of data from a European cohort study. The American journal of clinical nutrition. 2011;94(6 Suppl):1785s-93s.
34. Haschke, F, van't H, M A. Euro-Growth references for breast-fed boys and girls: influence of breast-feeding and solids on growth until 36 months of age. Euro-Growth Study Group. Journal of pediatric gastroenterology and nutrition. 2000;31 Suppl 1:S60-71.
35. Hawkins SS, Cole TJ, Law C. An ecological systems approach to examining risk factors for early childhood overweight: findings from the UK Millennium Cohort Study. Journal of epidemiology and community health. 2009;63:147-55.
36. Heinig, M J, Nommsen, L A, Peerson, J M, et al. Intake and growth of breast-fed and formula-fed infants in relation to the timing of introduction of complementary foods: the DARLING study. Davis Area Research on Lactation, Infant Nutrition and Growth. Acta paediatrica (Oslo, Norway : 1992). 1993;82(12):999-1006.
37. Huh, S Y, Rifas S, S L, Taveras, E M, et al. Timing of solid food introduction and risk of obesity in preschool-aged children. Pediatrics. 2011;127(3):e544-51.
38. Imai, C M, Gunnarsdottir, I, Thorisdottir, B, et al. Associations between infant feeding practice prior to six months and body mass index at six years of age. Nutrients. 2014;6(4):1608-17.
39. Johnson, L, van J, C H, Llewellyn, C H, et al. Associations between infant feeding and the size, tempo and velocity of infant weight gain: SITAR analysis of the Gemini twin birth cohort. International journal of obesity (2005). 2014;38(7):980-7.
40. Kalies, H, Heinrich, J, Borte, N, et al. The effect of breastfeeding on weight gain in infants: results of a birth cohort study. European journal of medical research. 2005;10(1):36-42.
41. Khadivzadeh, T, Parsai, S. Effect of exclusive breastfeeding and complementary feeding on infant growth and morbidity. Eastern Mediterranean health journal = La revue de sante de la Mediterranee orientale = al-Majallah al-sihhiyah li-sharq al-mutawassit. 2004;10(3):289-94.
42. Kramer, M S, Barr, R G, Leduc, D G, et al. Determinants of weight and adiposity in the first year of life. The Journal of pediatrics. 1985;106(1):10-4.
43. Kramer, M S, Barr, R G, Leduc, D G, et al. Infant determinants of childhood weight and adiposity. The Journal of pediatrics. 1985;107(1):104-7.
44. Kramer, M S, Guo, T, Platt, R W, et al. Feeding effects on growth during infancy. The Journal of pediatrics. 2004;145(5):600-5.
45. Kuperberg, K, Evers, S. Feeding patterns and weight among First Nations children. Canadian journal of dietetic practice and research : a publication of Dietitians of Canada = Revue canadienne de la pratique et de la recherche en dietetique : une publication des Dietetistes du Canada. 2006;67(2):79-84.
46. Lande, B, Andersen, L F, Henriksen, T, et al. Relations between high ponderal index at birth, feeding practices and body mass index in infancy. European journal of clinical nutrition. 2005;59(11):1241-9.
47. Lauver, M A, Hizon, L, Bulla, A, et al. Infant feeding practices: the effect on six month weight. The Journal of the Kansas Medical Society. 1981;82(9):403-6.

48. Layte, R, Bennett, A, McCrory, C, et al. Social class variation in the predictors of rapid growth in infancy and obesity at age 3 years. International journal of obesity (2005). 2014;38(1):82-90.
49. Leary, S D, Lawlor, D A, Davey S, G, et al. Behavioural early-life exposures and body composition at age 15 years. Nutrition & diabetes. 2015;5:e150.
50. Makela J, Vaarno J, Kaljonen A, Niinikoski H, Lagstrom H. Maternal overweight impacts infant feeding patterns--the STEPS Study. European journal of clinical nutrition. 2014;68:43-9.
51. Moss, B G, Yeaton, W H. Early childhood healthy and obese weight status: potentially protective benefits of breastfeeding and delaying solid foods. Maternal and child health journal. 2014;18(5):1224-32.
52. Neutzling, M B, Hallal, P R, Araujo, C L, et al. Infant feeding and obesity at 11 years: prospective birth cohort study. International journal of pediatric obesity : IJPO : an official journal of the International Association for the Study of Obesity. 2009;4(3):143-9.
53. Pan L, Li R, Park S, Galuska DA, Sherry B, Freedman DS. A longitudinal analysis of sugar-sweetened beverage intake in infancy and obesity at 6 years. Pediatrics. 2014;134 Suppl 1:S29-35.
54. Piwoz, E G, Creed de K, H, Lopez de R, G L, et al. Feeding practices and growth among low-income Peruvian infants: a comparison of internationally-recommended definitions. International journal of epidemiology. 1996;25(1):103-14.
55. Quandt, S A. The effect of beikost on the diet of breast-fed infants. Journal of the American Dietetic Association. 1984;84(1):47-51.
56. Reilly, J J, Armstrong, J, Dorosty, A R, et al. Early life risk factors for obesity in childhood: cohort study. BMJ (Clinical research ed). 2005;330(7504):1357.
57. Robinson SM, Marriott LD, Crozier SR, Harvey NC, Gale CR, Inskip HM, et al. Variations in infant feeding practice are associated with body composition in childhood: a prospective cohort study. The Journal of clinical endocrinology and metabolism. 2009;94:2799-805.
58. Rossiter, M D, Evers, S E. Infant feeding practices and children's weight status. Canadian journal of dietetic practice and research : a publication of Dietitians of Canada = Revue canadienne de la pratique et de la recherche en dietetique : une publication des Dietetistes du Canada. 2013;74(3):107-13.
59. Salmenpera, L, Perheentupa, J, Siimes, M A. Exclusively breast-fed healthy infants grow slower than reference infants. Pediatric research. 1985;19(3):307-12.
60. Santorelli, G, Fairley, L, Petherick, E S, et al. Ethnic differences in infant feeding practices and their relationship with BMI at 3 years of age - results from the Born in Bradford birth cohort study. The British journal of nutrition. 2014;111(10):1891-7.
61. Schack-Nielsen L, Sorensen T, Mortensen EL, Michaelsen KF. Late introduction of complementary feeding, rather than duration of breastfeeding, may protect against adult overweight. The American journal of clinical nutrition. 2010;91:619-27.
62. Seach, K A, Dharmage, S C, Lowe, A J, et al. Delayed introduction of solid feeding reduces child overweight and obesity at 10 years. International journal of obesity (2005). 2010;34(10):1475-9.
63. van Rossem L, Kiefte-de Jong JC, Looman CW, Jaddoe VW, Hofman A, Hokken-Koelega AC, et al. Weight change before and after the introduction of solids: results from a longitudinal birth cohort. The British journal of nutrition. 2013;109:370-5.
64. Victora, C G, Morris, S S, Barros, F C, et al. Breast-feeding and growth in Brazilian infants. The American journal of clinical nutrition. 1998;67(3):452-8.
65. Villalpando, S, Lopez A, M. Growth faltering is prevented by breast-feeding in underprivileged infants from Mexico City. The Journal of nutrition. 2000;130(3):546-52.
66. Warrington, S, Storey, D M. Comparative studies on Asian and Caucasian children. 2: Nutrition, feeding practices and health. European journal of clinical nutrition. 1988;42(1):69-79.

67. Wells, J C, Stanley, M, Laidlaw, A S, et al. Energy intake in early infancy and childhood fatness. International journal of obesity and related metabolic disorders : journal of the International Association for the Study of Obesity. 1998;22(5):387-92.
68. Wen, L M, Baur, L A, Rissel, C, et al. Correlates of body mass index and overweight and obesity of children aged 2 years: findings from the healthy beginnings trial. Obesity (Silver Spring, Md). 2014;22(7):1723-30.
69. World Health Organization. Growth of healthy infants and the timing, type, and frequency of complementary foods. The American journal of clinical nutrition. 2002;76(3):620-7.
70. Wilson, A C, Forsyth, J S, Greene, S A, et al. Relation of infant diet to childhood health: seven year follow up of cohort of children in Dundee infant feeding study. BMJ (Clinical research ed). 1998;316(7124):21-5.
71. Wolman, P G. Feeding practices in infancy and prevalence of obesity in preschool children. Journal of the American Dietetic Association. 1984;84(4):436-8.
72. Woo, J G, Guerrero, M L, Ruiz P, G M, et al. Specific infant feeding practices do not consistently explain variation in anthropometry at age 1 year in urban United States, Mexico, and China cohorts. The Journal of nutrition. 2013;143(2):166-74.
73. Worobey, J, Lopez, M I, Hoffman, D J. Maternal behavior and infant weight gain in the first year. Journal of nutrition education and behavior. 2009;41(3):169-75.
74. Worobey J, Pena J, Ramos I, Espinosa C. Infant difficulty and early weight gain: does fussing promote overfeeding? Maternal & child nutrition. 2014;10:295-303.
75. Yeung, D L, Pennell, M D, Leung, M, et al. Infant fatness and feeding practices: a longitudinal assessment. Journal of the American Dietetic Association. 1981;79(5):531-5.
76. Zheng, J S, Liu, H, Zhao, Y M, et al. Complementary feeding and childhood adiposity in preschool-aged children in a large Chinese cohort. The Journal of pediatrics. 2015;166(2):326-31.e2.
77. Burdette, H L, Whitaker, R C, Hall, W C, et al. Breastfeeding, introduction of complementary foods, and adiposity at 5 y of age. The American journal of clinical nutrition. 2006;83(3):550-8.
78. Bammann K, Peplies J, De Henauw S, Hunsberger M, Molnar D, Moreno LA, et al. Early life course risk factors for childhood obesity: the IDEFICS case-control study. PloS one. 2014;9(2):e86914.
79. Gungor DE, Paul IM, Birch LL, Bartok CJ. Risky vs rapid growth in infancy: refining pediatric screening for childhood overweight. Archives of pediatrics & adolescent medicine. 2010;164:1091-7.
80. Hui, L L, Nelson, E A, Yu, L M, et al. Risk factors for childhood overweight in 6- to 7-y-old Hong Kong children. International journal of obesity and related metabolic disorders : journal of the International Association for the Study of Obesity. 2003;27(11):1411-8.
81. Zhou, L, He, G, Zhang, J, et al. Risk factors of obesity in preschool children in an urban area in China. European journal of pediatrics. 2011;170(11):1401-6.

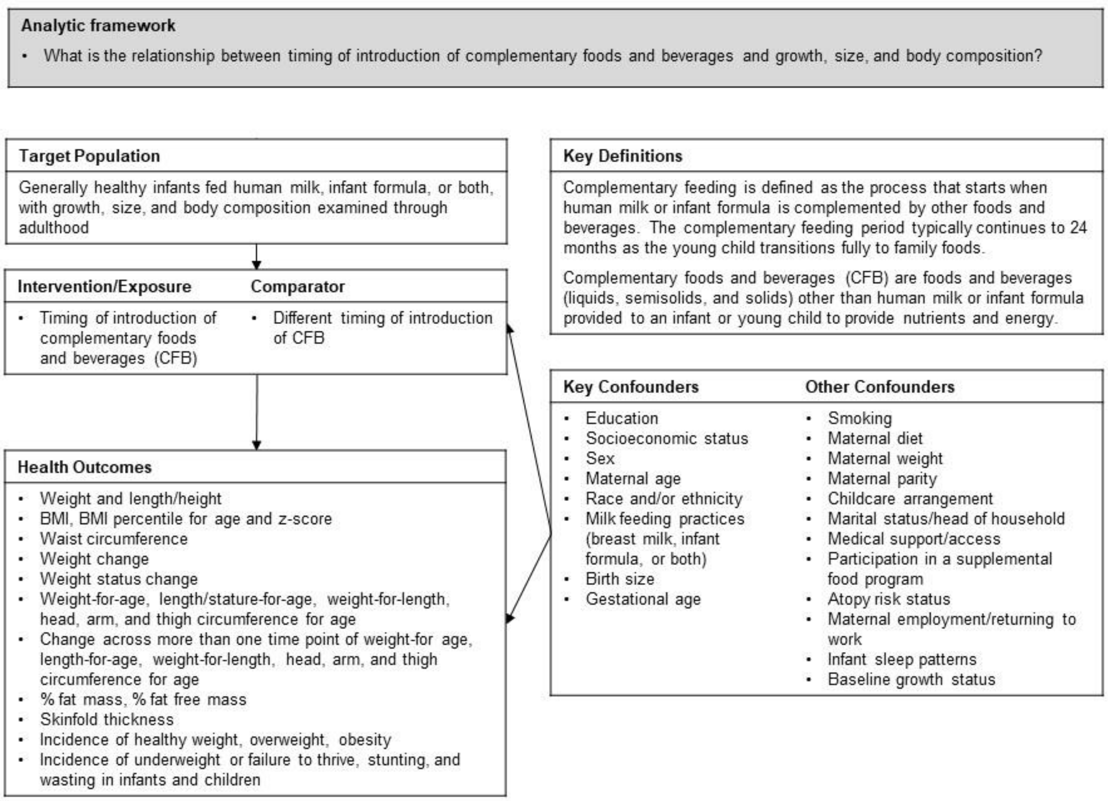
Other references

82. United Nations Development Programme. Human Development Report 2014. Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience. New York; 2014.
83. English L, Obbagy, JE, Wong, YP, Butte, NF, Dewey, KG, Fox, MK, Greer, FR, Krebs, NF, Scanlon, KS, Stoody, EE. Timing of introduction of complementary foods and beverages and growth, size, and body composition: A systematic review. Amer J Clin Nutr. 2019;109(7):935S-55S.
84. World Bank. The Little Data Book 2016 Washington, DC2016 [Available from: https://openknowledge.worldbank.org/handle/10986/23968.

ANALYTIC FRAMEWORK

The analytic framework (Figure 1) illustrates the overall scope of the systematic review, including the population, the interventions and/or exposures, comparators, and outcomes of interest. It also includes definitions of key terms and identifies key confounders considered in the systematic review. This is the analytic framework for the systematic review conducted to examine the relationship between complementary feeding and growth, size, and body composition.

Figure 1: Analytic framework



SEARCH PLAN AND RESULTS

Inclusion and exclusion criteria

This table provides the inclusion and exclusion criteria for the systematic review question on timing of introduction of complementary foods and beverages and growth, size, and body composition. The inclusion and exclusion criteria are a set of characteristics to determine which studies will be included or excluded in the systematic review.

Table 2. Inclusion and exclusion criteria

Category	Inclusion Criteria	Exclusion Criteria
Study design	• Randomized controlled trials • Non-randomized controlled trials • Prospective cohort studies • Retrospective cohort studies • Case-control studies • Pre/post studies with a control	• Cross-sectional studies • Uncontrolled studies • Pre/post studies without a control • Narrative reviews • Systematic reviews • Meta-analyses
Independent variable (intervention or exposure)	Timing of introduction of CFB. CFB are foods and beverages other than human milk or infant formula (liquids, semisolids, and solids) provided to an infant or young child to provide nutrients and energy.	Isolated consumption of human milk, infant formulas (e.g., milk-based, soy, partially-hydrolyzed, extensive-hydrolyzed, amino acid-based), fluid cow's milk before 12 months of age, or vitamin and mineral supplements (e.g., iron drops)
Comparator	Different timing of introduction of CFB	N/A
Dependent variables (outcomes)	• Weight and length/height • BMI, BMI percentile for age and z-score • Waist circumference • Weight change • Weight status change • Weight-for-age, length/stature-for-age, weight-for-length, head, arm, and thigh circumference for age • Change across more than one time point of weight-for age, length-for-age, weight-for-	N/A

	length, head, arm, and thigh circumference for age • % fat mass, % fat free mass • Skinfold thickness • Incidence of healthy weight, overweight, obesity • Incidence of underweight or failure to thrive, stunting, and wasting in infants and children	
Date range	• January 1980 - July 2016	
Language	• Studies published in English	• Studies published in languages other than English
Publication status	• Studies published in peer-reviewed journals	• Grey literature, including unpublished data, manuscripts, reports, abstracts, conference proceedings
Country [1]	• Studies conducted in Very High or High Human Development Countries	• Studies conducted in Medium or Low Human Development Countries
Study participants	• Human subjects • Males • Females	• Hospitalized patients, not including birth and immediate post-partum hospitalization of healthy babies
Age of study participants	• Age at intervention or exposure: ○ Infants (0-12 months) ○ Toddlers (12-24 months) • Age at outcome: ○ Infants (0-12 months) ○ Toddlers (12-24 months) ○ Child (2-5 years) ○ Child (6-12 years) ○ Adolescents (13-18 years) ○ Adults (19 and older) ○ Older adults (65 to 79 years) ○ Older adults (80+ years)	• Age at intervention or exposure: ○ Child (2-5 years) ○ Child (6-12 years) ○ Adolescents (13-18 years) ○ Adults (19 and older) ○ Older adults (65 to 79 years) ○ Older adults (80+ years)
Health status of study	• Studies done in generally healthy populations	• Studies that exclusively enroll subjects with a

participants	• Studies done in populations where infants were full term (≥37 weeks gestational age) • Studies done in populations with elevated chronic disease risk, or that enroll some participants with a disease or with the health outcome of interest	disease or with the health outcome of interest • Studies done in hospitalized or malnourished subjects • Studies of exclusively pre-term babies (gestational age <37 weeks) or babies that are small for gestational age (<2500g) • Studies of subjects with infectious diseases (e.g. HIV/AIDS) (or with mothers diagnosed with an infectious disease)

[1] The ratings of country development (e.g., high, medium, low, very low) were based on the Human Development Report 2014 (82). When a country was not included in the Human Development Report 2014 ranking, country classification from the World Bank was used instead (84). Medium Development countries were originally included, but due to concerns about generalizability to the U.S. of study participants (i.e., baseline health status) and complementary foods and beverages typically consumed, a decision was made to exclude “Medium” countries in October 2017

Search terms and electronic databases used

PubMed:

Date(s) Searched: 7/19/2016
Search Terms:

Final:

Complementary OR supplementary OR wean* OR transition* OR introduc* OR "Infant Nutritional Physiological Phenomena"[Mesh:noexp] OR weaning[mesh] OR ((bottle*) NOT (milk OR formula))

AND (feeding* OR food OR beverage*[tiab] OR beverages[mh] OR eating OR diet[tiab] OR diet[mh] OR meal*[tiab] OR meals[mh] OR "Food and Beverages"[Mesh] OR diets[tiab] OR cereal*[tiab] OR "Edible Grain"[Mesh] OR bread*[tiab] OR whole grain* OR juice*[tiab] OR milk[tiab] OR "Milk"[Mesh] OR dairy[tiab] OR "Dairy Products"[Mesh] OR meat[tiab] OR cheese[tiab] OR yogurt[tiab] OR yoghurt*[tiab] OR fruit*[tiab] OR "Fruit"[Mesh] OR vegetable*[tiab] OR "Vegetables"[Mesh] OR egg*[tiab] OR "Eggs"[Mesh] OR nut[tiab] OR nuts[tiab] OR peas[tiab] OR beans[tiab] OR legume*[tiab] OR snack*[tiab] OR bread[mh] OR honey[mh] OR vegetable*[tiab] OR "Vegetables"[Mesh] OR egg*[tiab] OR "Eggs"[Mesh:noexp] OR “egg white”[mh] OR “egg yolk”[mh] OR snack*[tiab] OR candy[mh] OR "Fast Foods"[Mesh] OR meat[mh] OR molasses[mh] OR nuts[mh] OR "Raw Foods"[Mesh] OR seeds[mh])

OR “infant food”[mesh]

OR infant feed*

OR
(breast feeding[mh] OR breastfeeding[tiab] OR breast feeding*[tiab] OR breast-feeding*[tiab] OR breastfed[tiab] OR breast-fed[tiab] OR breast-feed OR breast-feeds)

OR
(Bottle feeding[mh] OR bottle feeding*[tiab]s OR bottle feeding OR bottle-feeding*[tiab] OR bottle-feedings OR bottle-fed[tiab] OR “bottle fed”[tiab])

NOT (editorial[ptyp] OR comment[ptyp] OR news[ptyp] OR letter[ptyp] OR review[ptyp] OR systematic[sb])

OR ((Solid food*) OR solids));
AND

Growth[mh:noexp] OR "Child Development"[Mesh] OR "Growth Charts"[Mesh] OR "growth and development" [Subheading] OR "growth and development"[tiab] OR "Growth and Development"[Mesh:noexp] OR "Growth"[tiab] OR development*[tiab] OR "Child Development"[Mesh] OR child develop*[tiab] OR tooth[mh] OR tooth[tiab] OR teeth[tiab] OR movement[mh] OR "Overnutrition"[Mesh] OR under-nutrition[tiab] OR undernutrition[tiab] OR “developmental delay”[tiab] OR "Motor Skills"[Mesh] OR "Nonverbal Communication"[Mesh]

Standing[tiab] OR sitting[tiab] OR walking[tiab] OR crawling[tiab] OR "Motor Skills"[Mesh] OR Ages and Stages Questionnaire* OR ASQ[tiab]

OR Cognitive[tiab] OR cognition[mh] OR cognition OR learning OR "Learning Disorders"[Mesh] OR "Intellectual Disability"[Mesh] OR intelligence[tiab] OR intelligence[mh] OR "Achievement"[Mesh] OR "Aptitude"[Mesh] OR "Executive Function"[Mesh] OR memory OR inhibitory control*[tiab] OR “problem solving”[tiab] OR“Social-emotional development”[tiab] OR “Neurological development”[tiab] OR “mental development”[tiab] OR
“Motor development”[tiab] OR anxiety[tiab] OR anxiety[mh:noexp] OR "Anxiety, Separation"[Mesh] OR depression[tiab] OR depression[mh] OR "Depression, Postpartum"[Mesh] OR "Depressive Disorder"[Mesh] OR
"Visual Acuity"[Mesh] OR "Auditory Perception"[Mesh] OR "Psychological Tests"[Mesh]

OR
("Bone Density"[Mesh] OR “bone density”[tiab] OR "Bone Development"[Mesh] OR "Bone Development"[tiab] OR "Fractures, Bone"[Mesh] OR "Bone Diseases"[Mesh] OR osteoporosis[tiab] OR (bone[tiab] AND fracture*[tiab]) OR "Rickets"[Mesh] OR ricket*[tiab] OR bone mineral*[tiab] OR “bone mass”[tiab] OR bone health*[tiab] OR "Bone Demineralization, Pathologic"[Mesh] OR bone demineral*[tiab])

OR
("body size"[tiab] OR body size[mh] OR obesity[tiab] OR obese[tiab] OR overweight[mh] OR obesity[mh] OR overweight [tiab] OR adipos*[tiab] OR adiposity[mh] OR “body composition”[mh] OR body fat distribution[mh] OR “body fat”[tiab] OR "body weight"[tiab] OR body weight[mh] OR birth weight*[tiab] OR weight gain[mh] OR weight loss[mh] OR “body-weight”[tiab] OR "weight gain"[tiab] OR weight-gain[tiab] OR weight loss[tiab] OR weight-loss[tiab] OR “Body Weights and Measures”[mh] OR weight[ti] OR "Anthropometry"[Mesh:noexp] OR body mass index[mh] OR “body mass index”[tiab] OR BMI[tiab] OR “weight status”[tiab] OR “adipose tissue”[mh] OR "healthy weight"[tiab] OR waist circumference[mh] OR “body mass”[ti] OR “fat mass”[tiab] OR body weight changes[mh] OR “waist circumference”[tiab] OR ideal body weight[mh] OR waist-hip ratio[mh] OR Waist Hip*[tiab] OR body height*[tiab] OR Crown-Rump Length*[tiab] OR head circumference*[tiab] OR arm circumference*[tiab] OR thigh circumference* OR limb circumference* OR fat free mass*[tiab] OR skinfold[tiab] OR skin fold*[tiab])

AND

infant* OR baby OR babies OR toddler* OR newborn*[tiab] OR "Child, Preschool"[Mesh] OR preschool*[tiab] OR pre-school*[tiab] OR “early childhood”[tiab] OR “early years”[tiab] OR pre-k[tiab] OR pre-primary[tiab] OR under five*[ti] OR young child*[ti] OR “head start”[tiab] OR prekindergarten[tiab] OR pre-kindergarten[tiab] OR weanling*
OR limit to child, preschool

for child 0-18 all develop outcomes
for all; body wgt/comp/bone

NOT
nutritional status[mh] OR nutritional status*[tiab] OR Nutrition Status*[tiab] OR Iron[mh] OR

iron[tiab] OR "Anemia"[Mesh] OR "Anemia"[tiab] OR iron deficien*[tiab] OR ferritin*[tiab] OR ferrous[tiab] OR "Transferrin"[Mesh] OR "Transferrin"[tiab] OR zinc OR "Vitamin D"[Mesh] OR "Vitamin D"[tiab] OR "Vitamin D Deficiency"[Mesh] OR "Vitamin B 12"[Mesh] OR "Vitamin B 12"[tiab] OR "Vitamin B12"[tiab] OR "Vitamin B 12 Deficiency"[Mesh] OR Cobamide*[tiab] OR Cobalamin*[tiab] OR Cyanocobalamin[tiab] OR Folate[tiab] OR "Folic Acid"[Mesh] OR folacin[tiab] OR vitamin b9*[tiab] OR Fatty acid*[tiab] OR "Fatty Acids"[Mesh:noexp] OR fatty acid*[tiab] OR "Fatty Acids, Unsaturated"[Mesh:noexp] OR Arachidonic acid*[tiab] OR linolenic acid*[tiab] OR linoleic acid*[tiab] OR Docosahexaenoic Acid*[tiab] OR Eicosapentaenoic Acid*[tiab] OR gamma-Linolenic Acid*[tiab] OR "Arachidonic Acids"[Mesh] OR "Fatty Acids, Essential"[Mesh] OR "Fatty Acids, Omega-3"[Mesh] OR "Fatty Acids, Omega-6"[Mesh] OR alpha-Linolenic Acid*[tiab] OR "Fatty Acids, Essential"[Mesh] OR "Linolenic Acids"[Mesh] OR "Trans Fatty Acids"[Mesh] OR "Fatty Acids, Monounsaturated"[Mesh]

for nonmedline[sb]: NOT animals by: NOT (sheep[ti] OR lamb[ti] OR lambs[ti] OR calving[ti] OR calves[ti] OR mice[ti] OR mouse[ti] OR pigs[ti] OR cows[ti] OR piglets[ti] OR cow[ti] OR piglet[ti] OR monkey[ti] OR rats[ti] OR rat[ti] OR animal*[ti])

Embase:

Date(s) Searched: 8/1/16
Search Terms:

(Complementary OR supplementa* OR wean* OR transition* OR introduc* OR family) NEAR/3 (feed* OR food* OR beverage* OR eating OR diet)

OR
(Complementary OR transition* OR introduct* OR wean*) AND (food/exp OR 'baby food'/exp OR 'cereal'/exp OR 'dairy product'/exp OR 'egg'/exp OR 'fruit'/exp OR 'meat'/exp OR 'sea food'/exp OR 'milk'/exp OR fish/exp OR 'poultry'/exp OR 'beverage'/exp OR 'vegetable'/exp OR nut/exp OR pea/exp OR meal/exp)

OR
(Complementary OR supplementa* OR wean* OR transition* OR introduc*) NEAR/5 (‘whole grain’ OR ‘whole grains’ OR dairy OR egg OR eggs OR meat OR poultry OR seafood OR fruit* OR milk OR fish* OR poultry OR beverage* OR vegetables* OR pea OR peas OR nut OR nuts OR cereal OR bread* OR yog*urt* OR cheese* OR juice* OR rice OR soup OR legume* OR snack* OR meal*)   (for Embase)

OR 'baby food'/de OR (solid NEAR/2 food*):ab,ti

AND
(infant*:ti,ab OR infant/exp) OR (baby OR babies OR toddler* OR newborn* OR nurser*):ti,ab OR 'newborn'/exp OR 'newborn care'/exp OR preschool*:ti,ab OR pre-school:ti,ab OR 'preschool child'/exp OR 'infancy'/exp OR “early childhood”:ti,ab OR “early years” OR pre-k:ti,ab OR 'nursery'/exp OR 'nursery school'/exp OR prekindergarten:ti,ab OR pre-kindergarten:ti,ab OR weanling*

AND ([in process]/lim OR [article]/lim OR [article in press]/lim) AND ([embase]/lim NOT [medline]/lim)

AND

Limit to humans:

AND

'executive function'/exp OR 'executive function':ti,ab OR 'learning'/exp OR 'intelligence'/exp OR 'mental development'/exp OR 'mental development':ti,ab OR intelligence:ti,ab OR cogniti*:ti,ab OR 'cognition'/exp OR 'cognition assessment'/exp OR aptitude:ti,ab OR 'memory'/exp OR memory:ti,ab OR 'anxiety'/exp OR 'anxiety':ti,ab OR 'depression'/exp OR depressi*:ti,ab OR 'visual acuity'/exp OR visual:ti OR 'hearing'/exp OR hearing:ti,ab OR auditory:ti,ab OR 'postnatal development'/exp OR 'postnatal development':ti,ab OR 'overnutrition'/exp OR 'overnutrition':ti,ab OR undernutrition:ti,ab OR “developmental delay”:ti,ab OR 'nonverbal communication'/exp
OR

('metabolic bone disease'/exp OR osteoporosis:ti,ab OR (bone NEAR/2 (disease* OR fracture* OR injur* OR health* OR density OR mineralize* OR demineraliz*)):ti,ab OR ricket*:ti,ab OR 'bone injury'/exp OR 'bone density'/exp)

AND
'body size'/de OR ‘body size’:ti,ab OR 'obesity'/exp OR overweight:ab,ti OR 'macrosomia'/exp OR obese:ab,ti OR obesity:ab,ti OR 'weight gain':ab,ti OR adiposity:ab,ti OR adipose:ab,ti OR 'body weight'/exp OR ‘body weight’:ti,ab OR 'weight gain'/de OR 'body composition'/exp OR ‘body composition’:ti,ab OR 'body fat':ab,ti OR 'anthropometry'/de OR 'body mass'/de OR bmi:ab,ti OR 'body mass':ab,ti OR weight:ab,ti OR (waist NEXT/1 hip NEXT/1 ratio*) OR 'body fat'/de OR 'adipose tissue'/exp OR skinfold OR ‘skin fold’:ti,ab OR ‘fat mass’:ti,ab OR 'fat mass'/exp OR 'anthropometric parameters'/exp OR circumference OR length OR height

OR
'body growth'/exp ‘body growth’:ti,ab OR 'growth rate and growth regulation'/exp OR 'postnatal growth'/exp OR 'human development'/exp OR 'Bayley Scales of Infant Development'/exp OR 'cognition assessment'/exp OR 'mental function assessment'/de

Cochrane:

Date(s) Searched: 8/9/16
Search Terms:

(feed* OR food* OR beverage*OR diet* OR ‘whole grain’ OR ‘whole grains’ OR dairy OR egg OR meat OR poultry OR seafood OR fruit* OR milk OR fish* OR poultry OR vegetables* OR pea OR beans OR legume* OR nut OR cereal OR beverage* OR bread* OR seafood OR yog*urt* OR cheese OR juice OR snack OR yogurt OR yoghurt OR nut OR nuts OR honey OR meal OR meals) NEAR/3 (Complementary OR supplementa* OR wean* OR transition* OR introduct* OR family)

OR

[mh ^"Infant Nutritional Physiological Phenomena"] OR [mh weaning] OR ((bottle*) NOT (milk OR formula))
AND ([mh beverages] OR [mh eating] OR [mh diet] OR [mh meals] OR [mh "Food and Beverages"] OR [mh "Edible Grain"] OR [mh "Milk"] OR dairy[:ti,ab OR [mh "Dairy Products"] OR [mh "Fruit"] OR [mh "Vegetables"] OR [mh "Eggs"] OR [mh bread] OR [mh honey] OR [mh "Vegetables"] OR [mh ^"Eggs"] OR [mh “egg white”] OR [mh “egg yolk”] OR [mh candy] OR [mh "Fast Foods"] OR [mh meat] OR [mh molasses] OR [mh nuts] OR [mh "Raw Foods"] OR [mh seeds])

OR
((Infant* OR baby* OR babies) NEAR/2 food*):ti,ab OR [mh "infant food"]

AND

[mh ^Growth] OR [mh "Child Development"] OR [mh "Growth Charts"] OR "growth and development" OR [mh ^"Growth and Development"] OR [mh "Child Development"] OR (child NEAR/1 develop*):ti,ab OR [mh tooth] OR tooth:ti,ab OR teeth:ti,ab OR [mh movement] OR [mh "Overnutrition"] OR ”under-nutrition:ti,ab OR undernutrition:ti,ab OR [mh "Motor Skills"] OR [mh "Nonverbal Communication"]

OR
‘body growth’:ti,ab OR 'growth rate and growth regulation' OR 'postnatal growth':ti,ab OR 'human development':ti,ab OR 'Bayley Scales of Infant Development'

OR Standing:ti,ab OR sitting:ti,ab OR walking:ti,ab OR crawling:ti,ab OR “Ages and Stages Questionnaire” OR ASQ:ti,ab

OR [mh cognition] OR [mh learning] OR [mh "Learning Disorders"] OR [mh "Intellectual Disability"] OR intelligence:ti,ab OR [mh intelligence] OR [mh "Achievement"] OR [mh "Aptitude"] OR [mh "Executive Function"] OR (inhibitory NEAR/1 control*):ti,ab OR “problem solving”:ti,ab OR “Social-emotional development”:ti,ab OR “Neurological development”:ti,ab OR “mental development”:ti,ab OR “Motor development”ti,ab OR [mh ^anxiety] OR [mh "Anxiety, Separation"] OR [mh depression] OR [mh "Depression, Postpartum"] OR [mh "Depressive Disorder"] OR [mh "Visual Acuity"] OR [mh "Auditory Perception"] OR [mh "Psychological Tests"]

OR Stunt*:ti,ab OR wasting:ti,ab
OR

cogniti*:ti,ab OR aptitude:ti,ab OR memory:ti,ab OR [mh memory] OR 'anxiety':ti,ab OR depressi*:ti,ab OR visual:ti,ab OR vision:ti,ab OR hearing:ti,ab OR auditory:ti,ab OR 'postnatal development':ti,ab OR 'overnutrition':ti,ab OR “developmental delay”:ti,ab OR 'nonverbal communication'

OR

[mh "Bone Density"] OR [mh "Bone Development"] OR [mh "Fractures, Bone"] OR [mh "Bone Diseases"] OR [mh "Rickets"] OR [mh "Bone Demineralization, Pathologic"] OR osteoporosis:ti,ab OR (bone NEAR/2 (disease* OR fracture* OR injur* OR health* OR density OR mineral* OR demineral* OR develop* OR mass)):ti,ab OR ricket*:ti,ab

OR
'body size':ti,ab OR overweight:ab,ti OR 'macrosomia':ti,ab OR obese:ab,ti OR obesity:ab,ti OR adipos*:ab,ti OR 'body weight':ti,ab OR 'weight gain':ti,ab OR 'body composition':ti,ab OR 'body fat':ab,ti OR 'anthropometr*':ti,ab OR bmi:ab,ti OR 'body mass':ab,ti OR (waist NEXT/1 hip NEXT/1 ratio*) OR 'body fat':ti,ab OR 'adipose tissue':ti,ab OR skinfold:ti,ab OR 'skin fold':ti,ab OR 'fat mass':ti,ab OR circumference:ti,ab OR length:ti,ab OR height:ti,ab

([mh "body size"] OR [mh overweight] OR [mh obesity] OR [mh adiposity] OR [mh "body composition"] OR [mh "body fat distribution"] OR [mh "body weight"] OR [mh "weight gain"] OR [mh "weight loss"] OR "weight gain":ti,ab OR "weight loss":ti,ab OR "weight-loss":ti,ab OR [mh "Body Weights and Measures"] OR weight:ti OR [mh ^"Anthropometry"] OR [mh "body mass index"] OR "weight status":ti,ab OR [mh "adipose tissue"] OR "healthy weight":ti,ab OR [mh "waist circumference"] OR [mh "body weight changes"] OR [mh "ideal body weight"] OR [mh "waist-hip ratio"] OR "Waist Hip":ti,ab OR "waist-hip":ti,ab OR "Crown-Rump":ti,ab OR "fat free mass":ti,ab)

NOT (pubmed OR embase)

CINAHL

Date(s) Searched: 8/22/2016
Search Terms:

(MH "Food and Beverages+") OR (MH "Food") OR (MH "Diet") OR (MH "Eating") OR (MH "Eating Behavior") OR (MH "Taste") OR (MH "Taste Buds") OR (MH "Cereals") OR (MH "Dairy Products") OR (MH "Yogurt") OR (MH "Cheese") OR (MH "Milk") OR (MH "Eggs") OR (MH "Fruit") OR (MH "Fruit Juices") OR (MH "Meat") OR (MH "Seafood") OR (MH "Fish") OR (MH "Poultry") OR (MH "Vegetables") OR (MH "Nuts") OR (MH "Legumes") OR (MH "Bread") **AND** (Complementary OR supplementa* OR wean* OR transition* OR introduc*)

OR
('whole grain' OR 'whole grains' OR dairy OR egg OR eggs OR meat OR poultry OR seafood OR fruit* OR milk OR fish* OR poultry OR vegetables* OR pea OR peas OR nut OR nuts OR cereal OR beverage* OR bread* OR seafood OR yog*urt* OR cheese* OR juice*) **N5** (Complementary OR supplementa* OR wean* OR transition* OR introduc* OR family)

OR (Infant* OR baby OR babies) N2 food*

NOT
(MH "Nutritional Status") OR "nutritional status" OR (MH "Nutritional Requirements") OR (MH "Vitamin D") OR (MH "Vitamin D Deficiency") OR (MH "Vitamin B12 Deficiency") OR (MH "Anemia") OR "anemia" OR (MH "Anemia, Iron Deficiency") OR (MH "Iron") OR (MH "Zinc") OR (MH "Vitamin B12") OR (MH "Vitamin B12 Deficiency") OR (MH "Folic Acid") OR (MH "Niacin")

OR (MH "Folic Acid Deficiency") OR "folate" OR "folacin" OR cyanocobalamin* OR cobalamin* OR cobamamide* OR (MH "Fatty Acids") OR "fatty acids" OR (MH "Fatty Acids, Omega-6") OR (MH "Fatty Acids, Omega-3") OR (MH "Fatty Acids, Unsaturated") OR (MH "Trans Fatty Acids") OR (MH "Fatty Acids, Monounsaturated") OR (MH "Fatty Acids, Saturated") OR (MH "Fatty Acids, Essential") OR (MH "Arachidonic Acids") OR (MH "Docosahexaenoic Acids") OR (MH "Linolenic Acids") OR (MH "Linoleic Acids")

AND

osteoporosis OR (bone n2 (disease* OR fracture* OR injur* OR health* OR density OR mineralize* OR demineraliz*)) OR ricket* OR (MH "Osteoporosis") OR (MH "Bone Density") OR (MH "Bone Diseases+") OR (MH "Bone Diseases, Developmental+") OR (MH "Rickets+")

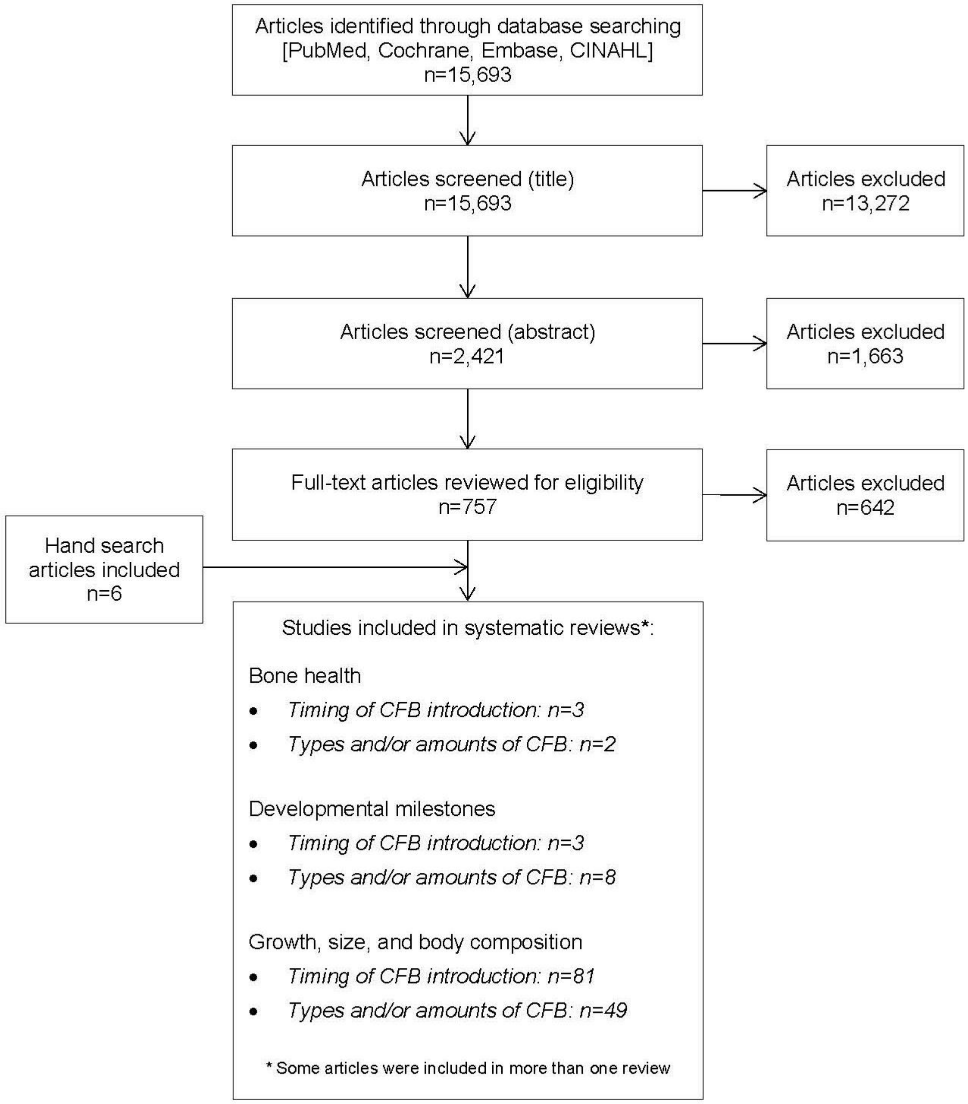
OR

(MH "Executive Function") OR (MH "Learning+") OR (MH "Intelligence+") OR "intelligence" OR (MH "Intelligence Tests") OR (MH "Cognition+") OR "cognition" OR "mental development" OR (MH "Aptitude") OR "aptitude" OR (MH "Aptitude Tests+") OR (MH "Memory+") OR "memory" OR (MH "Anxiety+") OR "anxiety" OR (MH "Depression+") OR "depression" OR (MH "Visual Acuity") OR (MH "Visual Perception+") OR (MH "Hearing+") OR "auditory" OR "overnutrition" OR "undernutrition" OR (MH "Nonverbal Communication+") OR “postnatal development” OR OR “developmental delay”

OR

(MH "Anthropometry+") OR (MH "Body Weights and Measures+") OR (MH "Body Weight+") OR (MH "Bone Development+") OR (MH "Growth+") OR (MH "Human Development+") OR "bayley scales" OR "mental function" OR (MH "Body Size") OR (MH "Obesity+") OR "overweight" OR "macrosomia" OR (MH "Weight Gain+") OR (MH "Waist-Hip Ratio") OR (MH "Body Composition+") OR (MH "Adipose Tissue+") OR (MH "Abdominal Fat") OR (MH "Fat Free Mass") OR (MH "Body Mass Index") OR (MH "Skinfold Thickness") OR (MH "Head Circumference") OR (MH "Arm Circumference") OR (MH "Waist Circumference") OR (MH "Growth and Development (Omaha)") OR (MH "Body Height") OR (MH "Crown-Rump Length") OR (MH "Leg Length Inequality") OR (MH "Mean Length of Utterance")

Figure 2: Flow chart of literature search and screening results



This flow chart illustrates the literature search results for articles examining the relationship between complementary feeding and growth, size, and/or body composition. The results of an electronic database search were screened independently by two NESR analysts by reviewing titles, abstracts, and full text articles to determine which articles met the criteria for inclusion. A manual search was done to ascertain articles not identified through the electronic database search. The systematic review on timing of introduction of CFB included 81 articles, and the systematic review on types and amounts of CFB consumed included 49 articles. The literature search was conducted for multiple systematic reviews that addressed complementary feeding and various health outcomes.

Excluded articles

The table below lists the excluded articles with at least one reason for exclusion, but may not reflect all possible reasons.

Table 3. Excluded articles

	Citation	Rationale[1]
1	Complementary feeding in the WHO Multicentre Growth Reference Study. Acta Paediatr Suppl.2006;450:27-37.	DV
2	Weaning and the weaning diet. Report of the Working Group on the Weaning Diet of the Committee on Medical Aspects of Food Policy. Rep Health Soc Subj (Lond).1994;45:1-113.	Design
3	Aarts, C.,Kylberg, E.,Hofvander, Y.,Gebre-Medhin, M. Growth under privileged conditions of healthy Swedish infants exclusively breastfed from birth to 4-6 months: a longitudinal prospective study based on daily records of feeding. Acta Paediatr.2003;92:145-51.	IV
4	Abarin, T.,Yan Wu, Y.,Warrington, N.,Lye, S.,Pennell, C.,Briollais, L. The impact of breastfeeding on FTO-related BMI growth trajectories: an application to the Raine pregnancy cohort study. Int J Epidemiol.2012;41:1650-60.	IV
5	Abou Samra, H.,Stevens, D.,Binkley, T.,Specker, B. Determinants of bone mass and size in 7-year-old former term, late-preterm, and preterm boys. Osteoporos Int.2009;20:1903-10.	Design, IV
6	Aboud, F. E.,Akhter, S. A cluster-randomized evaluation of a responsive stimulation and feeding intervention in bangladesh. Pediatrics.2011;127:e1191-7.	IV
7	Aboud, F. E.,Shafique, S.,Akhter, S. A responsive feeding intervention increases children's self-feeding and maternal responsiveness but not weight gain. J Nutr.2009;139:1738-43.	IV
8	Adu-Afarwuah, S.,Lartey, A.,Brown, K. H.,Zlotkin, S.,Briend, A.,Dewey, K. G. Randomized comparison of 3 types of micronutrient supplements for home fortification of complementary foods in Ghana: effects on growth and motor development. Am J Clin Nutr.2007;86:412-20.	IV
9	Agarwal, K. N.,Agarwal, D. K.,Gupta, A.,Bansal, A. K. Relationship of exclusive breast feeding for 6 mo to linear growth up to 18 mo of age. Indian J Pediatr.2013;80:11-5.	Country
10	Aggarwal, A.,Arora, S.,Patwari, A. K. Breastfeeding among urban women of low-socioeconomic status: factors influencing introduction of supplemental feeds before four months of age. Indian Pediatr.1998;35:269-73.	Design, IV,DV
11	Agostoni, C.,Fiocchi, A.,Riva, E.,Terracciano, L.,Sarratud, T.,Martelli, A.,Lodi, F.,D'Auria, E.,Zuccotti, G.,Giovannini, M. Growth of infants with IgE-mediated cow's milk allergy fed different formulas in the complementary feeding period. Pediatr Allergy Immunol.2007;18:599-606.	IV
12	Agostoni, C.,Grandi, F.,Gianni, M. L.,Silano, M.,Torcoletti, M.,Giovannini, M.,Riva, E. Growth patterns of breast fed and formula fed infants in the first 12 months of life: an Italian study. Arch Dis Child.1999;81:395-9.	IV
13	Agostoni, C.,Grandi, F.,Scaglioni, S.,Gianni, M. L.,Torcoletti, M.,Radaelli, G.,Fiocchi, A.,Riva, E. Growth pattern of breastfed and nonbreastfed infants with atopic dermatitis in the first year of life. Pediatrics.2000;106:E73.	IV
14	Agostoni,C.,Marangoni,F.,Lammardo,A. M.,Giovannini,M.,Riva,E.,Galli,C. Breastfeeding duration, milk fat composition and developmental indices at 1 year of life among breastfed infants. Prostaglandins Leukot Essent Fatty Acids.2001;64:105-9.	IV

15	Agostoni,C.,Zuccotti,G. V.,Radaelli,G.,Besana,R.,Podesta,A.,Sterpa,A.,Rottoli,A.,Riva,E.,Giovannini,M. Docosahexaenoic acid supplementation and time at achievement of gross motor milestones in healthy infants: a randomized, prospective, double-blind, placebo-controlled trial. Am J Clin Nutr.2009;89:64-70.	IV
16	Allen, L.,Shrimpton, R. The International Research on Infant Supplementation study: implications for programs and further research. J Nutr.2005;135:666s-669s.	Design
17	Alm,B.,Aberg,N.,Erdes,L.,Mollborg,P.,Pettersson,R.,Norvenius,S. G.,Goksor,E.,Wennergren,G. Early introduction of fish decreases the risk of eczema in infants. Arch Dis Child.2009;94:11-5.	DV
18	Almqvist,C.,Garden,F.,Xuan,W.,Mihrshahi,S.,Leeder,S. R.,Oddy,W.,Webb,K.,Marks,G. B. Omega-3 and omega-6 fatty acid exposure from early life does not affect atopy and asthma at age 5 years. J Allergy Clin Immunol.2007;119:1438-44.	IV, DV
19	Alvarez-Uria, G.,Midde, M.,Pakam, R.,Bachu, L.,Naik, P. K. Effect of Formula Feeding and Breastfeeding on Child Growth, Infant Mortality, and HIV Transmission in Children Born to HIV-Infected Pregnant Women Who Received Triple Antiretroviral Therapy in a Resource-Limited Setting: Data from an HIV Cohort Study in India. ISRN Pediatr.2012;2012:763591.	Health statu
20	Andersen, L. B.,Molgaard, C.,Michaelsen, K. F.,Carlsen, E. M.,Bro, R.,Pipper, C. B. Indicators of dietary patterns in Danish infants at 9 months of age. Food Nutr Res.2015;59:27665.	Design
21	Andersen,A. D.,Michaelsen,K. F.,Hellgren,L. I.,Trolle,E.,Lauritzen,L. A randomized controlled intervention with fish oil versus sunflower oil from 9 to 18 months of age: exploring changes in growth and skinfold thicknesses. Pediatr Res.2011;70:368-74.	IV
22	Andersen,L. B.,Pipper,C. B.,Trolle,E.,Bro,R.,Larnkjaer,A.,Carlsen,E. M.,Molgaard,C.,Michaelsen,K. F. Maternal obesity and offspring dietary patterns at 9 months of age. Eur J Clin Nutr.2015;69:668-75.	DV
23	Anderson, G. H.,Morson-Pasut, L. A.,Bryan, H.,Cleghorn, G.,Tanaka, P.,Yeung, D.,Zimmerman, B. Age of introduction of cow's milk to infants. J Pediatr Gastroenterol Nutr.1985;4:692-8.	Design
24	Anderson, V. P.,Cornwall, J.,Jack, S.,Gibson, R. S. Intakes from non-breastmilk foods for stunted toddlers living in poor urban villages of Phnom Penh, Cambodia, are inadequate. Matern Child Nutr.2008;4:146-59.	Design, Health status
25	Andres, A.,Casey, P. H.,Cleves, M. A.,Badger, T. M. Body fat and bone mineral content of infants fed breast milk, cow's milk formula, or soy formula during the first year of life. J Pediatr.2013;163:49-54.	IV
26	Andres, A.,Cleves, M. A.,Bellando, J. B.,Pivik, R. T.,Casey, P. H.,Badger, T. M. Developmental status of 1-year-old infants fed breast milk, cow's milk formula, or soy formula. Pediatrics.2012;129:1134-40.	IV
27	Andrissi, L.,Mottini, G.,Sebastiani, V.,Boldrini, L.,Giuliani, A. Dietary habits and growth: an urban/rural comparison in the Andean region of Apurimac, Peru. Ann Ist Super Sanita.2013;49:340-6.	IV
28	Anfield,L. Nutrition in the first year. Midwife Health Visit Community Nurse.1985;21:161-4.	Design
29	Anzman-Frasca, S.,Liu, S.,Gates, K. M.,Paul, I. M.,Rovine, M. J.,Birch, L. L. Infants' Transitions out of a Fussing/Crying State Are Modifiable and Are Related to Weight Status. Infancy.2013;18:662-686.	IV
30	Armstrong, J.,Reilly, J. J. Breastfeeding and lowering the risk of childhood obesity. Lancet.2002;359:2003-4.	IV
31	Arsenault,J. E.,Havel,P. J.,Lopez de Romana,D.,Penny,M. E.,Van Loan,M. D.,Brown,K. H. Longitudinal measures of circulating leptin and ghrelin concentrations are associated with the growth of young Peruvian children but are not affected by zinc supplementation. Am J Clin Nutr.2007;86:1111-9.	Health status

32	Arvas, A.,Elgormus, Y.,Gur, E.,Alikasifoglu, M.,Celebi, A. Iron status in breast-fed full-term infants. Turk J Pediatr.2000;42:22-6.	IV
33	Asha Bai, P. V.,Leela, M.,Subramaniam, V. R. Adequacy of breast milk for optimal growth of infants. Trop Geogr Med.1980;32:158-62.	IV
34	Assuncao, M. L.,Ferreira, H. S.,Coutinho, S. B.,Santos, L. M.,Horta, B. L. Protective effect of breastfeeding against overweight can be detected as early as the second year of life: a study of children from one of the most socially-deprived areas of Brazil. J Health Popul Nutr.2015;33:85-91.	Design, Health status, IV
35	Atladottir, H.,Thorsdottir, I. Energy intake and growth of infants in Iceland-a population with high frequency of breast-feeding and high birth weight. Eur J Clin Nutr.2000;54:695-701.	IV
36	Auestad,N. Infant nutrition--brain development--disease in later life. An introduction. Dev Neurosci.2000;22:472-3.	Design
37	Augusto,R. A.,Souza,J. M. Effectiveness of a supplementary feeding program in child weight gain. Rev Saude Publica.2010;44:793-801.	Design, IV
38	Axelsson,I. E.,Jakobsson,I.,Raiha,N. C. Formula with reduced protein content: effects on growth and protein metabolism during weaning. Pediatr Res.1988;24:297-301.	IV
39	Azad, M. B.,Konya, T.,Maughan, H.,Guttman, D. S.,Field, C. J.,Chari, R. S.,Sears, M. R.,Becker, A. B.,Scott, J. A.,Kozyrskyj, A. L. Gut microbiota of healthy Canadian infants: profiles by mode of delivery and infant diet at 4 months. Cmaj.2013;185:385-94.	DV
40	Badger, T. Effects of soy infant formula on growth and development in the first year of life. Food Nutr Bull.2013;34:252-3.	Design, IV
41	Bahamondes L,Bahamondes MV,Modesto W,Tilley IB,Magalhaes A,Pinto e Silva JL,Amaral E, Jr. Mishell DR. Effect of hormonal contraceptives during breastfeeding on infant's milk ingestion and growth. Fertil Steril.2013;100:445-50.	IV
42	Bai, K. I.,Sastry, V. N.,Reddy, C. C. A comparative study of feeding pattern of infants in rural and urban areas. Indian J Pediatr.1981;48:277-80.	Design, IV
43	Balaban, G.,Motta, M. E.,Silva, G. A. Early weaning and other potential risk factors for overweight among preschool children. Clinics (Sao Paulo).2010;65:181-7.	IV, Age
44	Balogun,T. A.,Lombard,M. J.,McLachlan,M. The nutrient intake of children aged 12-36 months living in two communities in the Breede Valley, Western Cape province, South Africa. South African Family Practice.2015;57:1-7 7p.	Design
45	Baranowski, T.,Bryan, G. T.,Harrison, J. A.,Rassin, D. K.,Greaves, K. A.,Baranowski, J. H. Height, infant-feeding practices and cardiovascular functioning among 3 or 4 year old children in three ethnic groups. J Clin Epidemiol.1992;45:513-8.	DV
46	Bartok, C. J.,Schaefer, E. W.,Beiler, J. S.,Paul, I. M. Role of body mass index and gestational weight gain in breastfeeding outcomes. Breastfeed Med.2012;7:448-56.	IV, DV
47	Beal, V. A. Nutrition and growth-patterns of young children. ASDC J Dent Child.1983;50:139-41.	Design
48	Begum, H. A.,Mascie-Taylor, C.,Nahar, S. The impact of food supplementation on infant weight gain in rural Bangladesh; an assessment of the Bangladesh Integrated Nutritional Program (BINP). Public Health Nutr.2007;10:49-54.	IV
49	Beinner,M. A.,Velasquez-Melendez,G.,Pessoa,M. C.,Greiner,T. Iron-fortified rice is as efficacious as supplemental iron drops in infants and young children. J Nutr.2010;140:49-53.	IV, DV
50	Ben,X. M.,Zhou,X. Y.,Zhao,W. H.,Yu,W. L.,Pan,W.,Zhang,W. L.,Wu,S. M.,Van Beusekom,C. M.,Schaafsma,A. Growth and	IV

	development of term infants fed with milk with long-chain polyunsaturated fatty acid supplementation. Chin Med J (Engl).2004;117:1268-70.	
51	Bennett,W. E.,Jr.,Hendrix,K. S.,Thompson-Fleming,R. T.,Downs,S. M.,Carroll,A. E. Early cow's milk introduction is associated with failed personal-social milestones after 1 year of age. Eur J Pediatr.2014;173:887-92.	IV
52	Bergmann, K. E.,Bergmann, R. L.,Von Kries, R.,Bohm, O.,Richter, R.,Dudenhausen, J. W.,Wahn, U. Early determinants of childhood overweight and adiposity in a birth cohort study: role of breast-feeding. Int J Obes Relat Metab Disord.2003;27:162-72.	IV
53	Bernal, M. J.,Periago, M. J.,Martinez, R.,Ortuno, I.,Sanchez-Solis, M.,Ros, G.,Romero, F.,Abellan, P. Effects of infant cereals with different carbohydrate profiles on colonic function--randomised and double-blind clinical trial in infants aged between 6 and 12 months--pilot study. Eur J Pediatr.2013;172:1535-42.	IV
54	Berni Canani R,Nocerino R,Terrin G,Frediani T,Lucarelli S,Cosenza L,Passariello A,Leone L,Granata V,Di Costanzo M,Pezzella V,Troncone R. Formula selection for management of children with cow's milk allergy influences the rate of acquisition of tolerance: a prospective multicenter study. J Pediatr.2013;163:771-7.e1.	IV, DV
55	Betoko, A.,Charles, M. A.,Hankard, R.,Forhan, A.,Bonet, M.,Regnault, N.,Botton, J.,Saurel-Cubizolles, M. J.,de Lauzon-Guillain, B. Determinants of infant formula use and relation with growth in the first 4 months. Matern Child Nutr.2014;10:267-79.	IV
56	Betoko, A.,Charles, M. A.,Hankard, R.,Forhan, A.,Bonet, M.,Saurel-Cubizolles, M. J.,Heude, B.,de Lauzon-Guillain, B. Infant feeding patterns over the first year of life: influence of family characteristics. Eur J Clin Nutr.2013;67:631-7.	DV
57	Bhandari, N.,Bahl, R.,Nayyar, B.,Khokhar, P.,Rohde, J. E.,Bhan, M. K. Food supplementation with encouragement to feed it to infants from 4 to 12 months of age has a small impact on weight gain. J Nutr.2001;131:1946-51.	Country
58	Bhandari, N.,Mazumder, S.,Bahl, R.,Martines, J.,Black, R. E.,Bhan, M. K. An educational intervention to promote appropriate complementary feeding practices and physical growth in infants and young children in rural Haryana, India. J Nutr.2004;134:2342-8.	IV
59	Bhatia, B. D.,Banerjee, D.,Agarwal, D. K.,Agarwal, K. N. Exterogestate growth: relationship with maternal body size and dietary intakes. Indian J Pediatr.1983;50:241-6.	Health status, IV
60	Bindon, J. R.,Cabrera, C. Infant feeding patterns and growth of infants in American Samoa during the first year of life. Hum Biol.1988;60:81-92.	Design, IV, DV
61	Bindon, J. R. The body build and composition of Samoan children: relationships to infant feeding patterns and infant weight-for-length status. Am J Phys Anthropol.1984;63:379-88.	IV
62	Bindon, J. R. The influence of infant feeding patterns on growth of children in American Samoa. Med Anthropol.1985;9:183-95.	Country
63	Birch,E. E.,Garfield,S.,Castaneda,Y.,Hughbanks-Wheaton,D.,Uauy,R.,Hoffman,D. Visual acuity and cognitive outcomes at 4 years of age in a double-blind, randomized trial of long-chain polyunsaturated fatty acid-supplemented infant formula. Early Hum Dev.2007;83:279-84.	IV
64	Bisimwa, G.,Owino, V. O.,Bahwere, P.,Dramaix, M.,Donnen, P.,Dibari, F.,Collins, S. Randomized controlled trial of the effectiveness of a soybean-maize-sorghum-based ready-to-use complementary food paste on infant growth in South Kivu, Democratic Republic of Congo. Am J Clin Nutr.2012;95:1157-64.	IV
65	Bjorke-Monsen, A. L. Is exclusive breastfeeding ensuring an optimal micronutrient status and psychomotor development in infants?. Clin Biochem.2014;47:714.	Design
66	Block,S. L. Delayed introduction of solid foods to infants: not so fast!. Pediatr Ann.2013;42:143-7.	Design

67	Bogen, D. L.,Hanusa, B. H.,Whitaker, R. C. The effect of breast-feeding with and without formula use on the risk of obesity at 4 years of age. Obes Res.2004;12:1527-35.	IV
68	Bonuck, K.,Avraham, S. B.,Lo, Y.,Kahn, R.,Hyden, C. Bottle-weaning intervention and toddler overweight. J Pediatr.2014;164:306-12.e1-2.	IV
69	Borschel, M. W.,Baggs, G. E.,Barrett-Reis, B. Growth of healthy term infants fed ready-to-feed and powdered forms of an extensively hydrolyzed casein-based infant formula: a randomized, blinded, controlled trial. Clin Pediatr (Phila).2014;53:585-92.	IV
70	Boulton J. Nutrition in childhood and its relationships to early somatic growth, body fat, blood pressure, and physical fitness. Acta Paediatr Scand Suppl.1981;284:1-85.	Design,DV
71	Brakohiapa, L. A.,Yartey, J.,Bille, A.,Harrison, E.,Quansah, E.,Armar, M. A.,Kishi, K.,Yamamoto, S. Does prolonged breastfeeding adversely affect a child's nutritional status?. Lancet.1988;2:416-8.	IV, DV
72	Brazionis, L.,Golley, R. K.,Mittinty, M. N.,Smithers, L. G.,Emmett, P.,Northstone, K.,Lynch, J. W. Diet spanning infancy and toddlerhood is associated with child blood pressure at age 7.5 y. Am J Clin Nutr.2013;97:1375-86.	DV
73	Breij, L. M.,Mulder, M. T.,van Vark-van der Zee, L. C.,Hokken-Koelega, A. C. Appetite-regulating hormones in early life and relationships with type of feeding and body composition in healthy term infants. Eur J Nutr.2016.	IV
74	Brekke, H. K.,van Odijk, J.,Ludvigsson, J. Predictors and dietary consequences of frequent intake of high-sugar, low-nutrient foods in 1-year-old children participating in the ABIS study. Br J Nutr.2007;97:176-81.	DV
75	Brew,B. K.,Toelle,B. G.,Webb,K. L.,Almqvist,C.,Marks,G. B. Omega-3 supplementation during the first 5 years of life and later academic performance: a randomised controlled trial. Eur J Clin Nutr.2015;69:419-24.	IV
76	Briend,A.,Bari,A. Breastfeeding improves survival, but not nutritional status, of 12-35 months old children in rural Bangladesh. Eur J Clin Nutr.1989;43:603-8.	Health status, IV
77	Briend,A.,Darmon,N. Determining limiting nutrients by linear programming: A new approach to predict insufficient intakes from complementary foods. Pediatrics.2000;106:1288-9.	Design
78	Brito,A.,Olivares,M.,Pizarro,T.,Rodriguez,L.,Hertrampf,E. Chilean complementary feeding program reduces anemia and improves iron status in children aged 11 to 18 months. Food Nutr Bull.2013;34:378-85.	Design
79	Brown A,Lee MD. Early influences on child satiety-responsiveness: the role of weaning style. Pediatr Obes.2015;10:57-66.	IV
80	Brown, A.,Lee, M. Breastfeeding during the first year promotes satiety responsiveness in children aged 18-24 months. Pediatr Obes.2012;7:382-90.	IV
81	Brown,K. H.,Lopez de Romana,D.,Arsenault,J. E.,Peerson,J. M.,Penny,M. E. Comparison of the effects of zinc delivered in a fortified food or a liquid supplement on the growth, morbidity, and plasma zinc concentrations of young Peruvian children. Am J Clin Nutr.2007;85:538-47.	IV
82	Brown,L. V.,Zeitlin,M. F.,Peterson,K. E.,Chowdhury,A. M.,Rogers,B. L.,Weld,L. H.,Gershoff,S. N. Evaluation of the impact of weaning food messages on infant feeding practices and child growth in rural Bangladesh. Am J Clin Nutr.1992;56:994-1003.	IV
83	Brulotte, J.,Bukutu, C.,Vohra, S. Complementary, holistic, and integrative medicine: fish oils and neurodevelopmental disorders. Pediatr Rev.2009;30:e29-33.	Design
84	Bulk-Bunschoten, A. M.,van Bodegom, S.,Reerink, J. D.,de Jong, P. C.,de Groot, C. J. Weight and weight gain at 4 months (The Netherlands 1998): influences of nutritional practices, socio-economic and ethnic factors. Paediatr Perinat Epidemiol.2002;16:361-9.	IV

85	Burnham, L.,Matlak, S.,Makrigiorgos, G.,Braun, N.,Knapp, B. P.,Merewood, A. Breastfeeding and coffee consumption in children younger than 2 years in Boston, Massachusetts, USA. J Hum Lact.2015;31:267-72.	DV
86	Caleyachetty A,Krishnaveni GV,Veena SR,Hill J,Karat SC,Fall CH,Wills AK. Breastfeeding duration, age of starting solids and high BMI risk and adiposity in Indian children. Matern Child Nutr.2013;9:199-216.	Design,Country
87	Calvo,E. B.,Galindo,A. C.,Aspres,N. B. Iron status in exclusively breast-fed infants. Pediatrics.1992;90:375-9.	IV, DV
88	Calvo,E.,Hertrampf,E.,Pablo,S.,Amar,M.,Stekel,A. Haemoglobin-fortified cereal: an alternative weaning food with high iron bioavailability. European journal of clinical nutrition.1989;43:237-43.	Design, DV
89	Cameron, S. L.,Heath, A. L.,Gray, A. R.,Churcher, B.,Davies, R. S.,Newlands, A.,Galland, B. C.,Sayers, R. M.,Lawrence, J. A.,Taylor, B. J.,Taylor, R. W. Lactation Consultant Support from Late Pregnancy with an Educational Intervention at 4 Months of Age Delays the Introduction of Complementary Foods in a Randomized Controlled Trial. J Nutr.2015;145:1481-90.	DV
90	Capozzi,L.,Russo,R.,Bertocco,F.,Ferrara,D.,Ferrara,M. Diet and iron deficiency in the first year of life: a retrospective study. Hematology.2010;15:410-3.	DV
91	Capozzi,L.,Russo,R.,Bertocco,F.,Ferrara,D.,Ferrara,M. Effect on haematological and anthropometric parameters of iron supplementation in the first 2 years of life. Risks and benefits. Hematology.2011;16:261-4.	IV
92	Carruth,B. R.,Nevling,W.,Skinner,J. D. Developmental and food profiles of infants born to adolescent and adult mothers. J Adolesc Health.1997;20:434-41.	IV, DV, Age
93	Casiday, R. E.,Wright, C. M.,Panter-Brick, C.,Parkinson, K. N. Do early infant feeding patterns relate to breast-feeding continuation and weight gain? Data from a longitudinal cohort study. Eur J Clin Nutr.2004;58:1290-6.	IV
94	Castillo-Duran,C.,Perales,C. G.,Hertrampf,E. D.,Marin,V. B.,Rivera,F. A.,Icaza,G. Effect of zinc supplementation on development and growth of Chilean infants. J Pediatr.2001;138:229-35.	IV
95	Chaimay, B.,Ruagdaraganon, N.,Thinkhamrop, B.,Thinkhamrop, J. Association between infant feeding practices and first meaningful words at first year of life: a prospective cohort study of Thai children. Asia Pac J Public Health.2015;27:Np1071-84.	IV
96	Chan,G. M.,Roberts,C. C.,Folland,D.,Jackson,R. Growth and bone mineralization of normal breast-fed infants and the effects of lactation on maternal bone mineral status. Am J Clin Nutr.1982;36:438-43.	IV
97	Chang, S. Y.,He, W.,Chen, C. M. Complementary feeding and growth of infant and young child in China. Biomed Environ Sci.2008;21:264-8.	Design
98	Chatterjee, M. K. Feeding pattern practised by the mothers attending an under five clinic. Indian J Public Health.1987;31:268-9.	Design
99	Chavez A,Martinez C,Schlaepfer L. Health effects of supplementary feeding programs. Prog Clin Biol Res.1981;67:129-39.	Design
100	Chawla, P.,Puri, R.,Pershad, D. Impact of pre-school supplementary feeding on mental abilities. Indian Pediatr.1983;20:513-6.	Age
101	Chawla, P.,Puri, R. Impact of pre-school supplementary feeding programme on anthropometry. Indian Pediatr.1983;20:363-7.	Age
102	Cheng, T. S.,Loy, S. L.,Cheung, Y. B.,Chan, J. K.,Pang, W. W.,Godfrey, K. M.,Gluckman, P. D.,Kwek, K.,Saw, S. M.,Chong, Y. S.,Lee, Y. S.,Lek, N.,Yap, F. Sexually dimorphic response to feeding mode in the growth of infants. Am J Clin Nutr.2016;103:398-405.	IV

103	Chirmulay, D.,Nisal, R. Nutritional status of tribal underfive children in Ahmadnagar District, Maharashtra in relation to weaning/feeding practices. Indian Pediatr.1993;30:215-22.	Design
104	Chitra, P. Development of banana-based weaning food mixes for infants and its nutritional quality evaluation. Rev Environ Health.2015;30:125-30.	IV
105	Chivers, P.,Hands, B.,Parker, H.,Bulsara, M.,Beilin, L. J.,Kendall, G. E.,Oddy, W. H. Body mass index, adiposity rebound and early feeding in a longitudinal cohort (Raine Study). Int J Obes (Lond).2010;34:1169-76.	IV
106	Cho, H. N.,Hong, S.,Lee, S. H.,Yum, H. Y. Nutritional status according to sensitized food allergens in children with atopic dermatitis. Allergy, Asthma and Immunology Research.2010;3:53-57.	Design, IV, DV
107	Chorell,E.,Karlsson Videhult,F.,Hernell,O.,Antti,H.,West,C. E. Impact of probiotic feeding during weaning on the serum lipid profile and plasma metabolome in infants. Br J Nutr.2013;110:116-26.	IV
108	Choudhury, N.,Bromage, S.,Alam, M. A.,Ahmed, A. M.,Islam, M. M.,Hossain, M. I.,Mahfuz, M.,Mondal, D.,Haque, M. R.,Ahmed, T. Intervention study shows suboptimal growth among children receiving a food supplement for five months in a slum in Bangladesh. Acta Paediatr.2016.	Health status, IV
109	Christoffel, K. A pediatric perspective on vegetarian nutrition. Clin Pediatr (Phila).1981;20:632-43.	Design
110	Christopher, G. C. First food: the essential role of breastfeeding. Breastfeed Med.2009;4 Suppl 1:S9-s10.	Design
111	Chuang, C. H.,Yang, S. H.,Chang, P. J.,Chen, P. C.,Chen, Y. C. Dietary supplement intake by 6-month-old Taiwanese infants. J Pediatr Gastroenterol Nutr.2012;54:71-6.	DV
112	Closa-Monasterolo, R.,Gispert-Llaurado, M.,Luque, V.,Ferre, N.,Rubio-Torrents, C.,Zaragoza-Jordana, M.,Escribano, J. Safety and efficacy of inulin and oligofructose supplementation in infant formula: results from a randomized clinical trial. Clin Nutr.2013;32:918-27.	IV
113	Cloutier, M. M.,Wiley, J.,Wang, Z.,Grant, A.,Gorin, A. A. The Early Childhood Obesity Prevention Program (ECHO): an ecologically-based intervention delivered by home visitors for newborns and their mothers. BMC Public Health.2015;15:584.	Design
114	Cockburn,F. Neonatal brain and dietary lipids. Arch Dis Child Fetal Neonatal Ed.1994;70:F1-2.	Design
115	Cohen RJ,Brown KH,Canahuati J,Rivera LL,Dewey KG. Effects of age of introduction of complementary foods on infant breast milk intake, total energy intake, and growth: a randomised intervention study in Honduras. Lancet.1994;344:288-93.	Country
116	Cohen, R. J.,Brown, K. H.,Canahuati, J.,Rivera, L. L.,Dewey, K. G. Determinants of growth from birth to 12 months among breast-fed Honduran infants in relation to age of introduction of complementary foods. Pediatrics.1995;96:504-10.	IV
117	Coleman,B. L. Early introduction of non-formula cow's milk to southern Ontario infants. Can J Public Health.2006;97:187-90.	IV, DV
118	Colombo,J.,Carlson,S. E.,Cheatham,C. L.,Shaddy,D. J.,Kerling,E. H.,Thodosoff,J. M.,Gustafson,K. M.,Brez,C. Long-term effects of LCPUFA supplementation on childhood cognitive outcomes. Am J Clin Nutr.2013;98:403-12.	IV
119	Coppi, S.,Iacoponi, F.,Fommei, C.,Strambi, M. Growth trend during the first six months of life in male infants with different type of feeding. Minerva Pediatr.2013;65:51-9.	IV
120	Costom, B. H.,Shore, D. Effect of a comprehensive nutritional program on the growth and ponderosity of infants. Clin Pediatr (Phila).1983;22:105-11.	Design

121	Courage, M. L.,McCloy, U. R.,Herzberg, G. R.,Andrews, W. L.,Simmons, B. S.,McDonald, A. C.,Mercer, C. N.,Friel, J. K. Visual acuity development and fatty acid composition of erythrocytes in full-term infants fed breast milk, commercial formula, or evaporated milk. J Dev Behav Pediatr.1998;19:9-17.	IV
122	Cusack, R. Dietary management of obese children and adolescents. Pediatr Ann.1984;13:455, 458-9, 462-4.	Design
123	Dagan, R.,Sofer, S.,Klish, W. J.,Hundt, G.,Saltz-Rennert, H.,Moses, S. W. Infant feeding practices among Bedouins in transition from seminomadic to settlement conditions in the Negev area of Israel. Isr J Med Sci.1984;20:1029-34.	Design, DV
124	Dagnelie,P. C.,van Staveren,W. A.,Hautvast,J. G. Stunting and nutrient deficiencies in children on alternative diets. Acta Paediatr Scand Suppl.1991;374:111-8.	DV
125	Dagnelie,P. C.,van Staveren,W. A.,Vergote,F. J.,Dingjan,P. G.,van den Berg,H.,Hautvast,J. G. Increased risk of vitamin B-12 and iron deficiency in infants on macrobiotic diets. Am J Clin Nutr.1989;50:818-24.	Design, DV
126	Dagnelie,P. C.,van Staveren,W. A.,Verschuren,S. A.,Hautvast,J. G. Nutritional status of infants aged 4 to 18 months on macrobiotic diets and matched omnivorous control infants: a population-based mixed-longitudinal study. I. Weaning pattern, energy and nutrient intake. Eur J Clin Nutr.1989;43:311-23.	Design, DV
127	Daniels, L. A.,Mallan, K. M.,Battistutta, D.,Nicholson, J. M.,Meedeniya, J. E.,Bayer, J. K.,Magarey, A. Child eating behavior outcomes of an early feeding intervention to reduce risk indicators for child obesity: the NOURISH RCT. Obesity (Silver Spring).2014;22:E104-11.	DV
128	Daniels, L. A.,Mallan, K. M.,Battistutta, D.,Nicholson, J. M.,Perry, R.,Magarey, A. Evaluation of an intervention to promote protective infant feeding practices to prevent childhood obesity: outcomes of the NOURISH RCT at 14 months of age and 6 months post the first of two intervention modules. Int J Obes (Lond).2012;36:1292-8.	IV, DV
129	Daniels, L. A.,Mallan, K. M.,Nicholson, J. M.,Battistutta, D.,Magarey, A. Outcomes of an early feeding practices intervention to prevent childhood obesity. Pediatrics.2013;132:e109-18.	IV
130	Daniels, L. A.,Mallan, K. M.,Nicholson, J. M.,Thorpe, K.,Nambiar, S.,Mauch, C. E.,Magarey, A. An Early Feeding Practices Intervention for Obesity Prevention. Pediatrics.2015;136:e40-9.	IV
131	Daniels, M. C.,Adair, L. S. Breast-feeding influences cognitive development in Filipino children. J Nutr.2005;135:2589-95.	IV
132	Davidsson,L.,Sarker,S. A.,Jamil,K. A.,Sultana,S.,Hurrell,R. Regular consumption of a complementary food fortified with ascorbic acid and ferrous fumarate or ferric pyrophosphate is as useful as ferrous sulfate in maintaining hemoglobin concentrations >105 g/L in young Bangladeshi children. Am J Clin Nutr.2009;89:1815-20.	IV, DV
133	de Hoog ML,van Eijsden M,Stronks K,Gemke RJ,Vrijkotte TG. The role of infant feeding practices in the explanation for ethnic differences in infant growth: the Amsterdam Born Children and their Development study. Br J Nutr.2011;106:1592-601.	Design
134	de Kanashiro, H. C.,Brown, K. H.,Lopez de Romana, G.,Lopez, T.,Black, R. E. Consumption of food and nutrients by infants in Huascar (Lima), Peru. Am J Clin Nutr.1990;52:995-1004.	DV
135	de Villiers, A.,Senekal, M. Determinants of growth failure in 12-24-month-old children in a high-density urban slum community in East London, South Africa. Eur J Clin Nutr.2002;56:1231-41.	Country
136	de Zegher, F.,Sebastiani, G.,Diaz, M.,Sanchez-Infantes, D.,Lopez-Bermejo, A.,Ibanez, L. Body composition and circulating high-molecular-weight adiponectin and IGF-I in infants born small for gestational age: breast- versus formula-feeding. Diabetes.2012;61:1969-73.	Health status, IV

137	Delport, S. D.,Becker, P. J.,Bergh, A. Growth, feeding practices and infections in black infants. S Afr Med J.1997;87:57-61.	IV, DV
138	Dewey, K. G.,Cohen, R. J.,Rivera, L. L.,Canahuati, J.,Brown, K. H. Do exclusively breast-fed infants require extra protein?. Pediatr Res.1996;39:303-7.	IV
139	Dewey, K. G.,Hawck, M. G.,Brown, K. H.,Lartey, A.,Cohen, R. J.,Peerson, J. M. Infant weight-for-length is positively associated with subsequent linear growth across four different populations. Matern Child Nutr.2005;1:11-20.	IV
140	Dewey, K. G.,Heinig, M. J.,Nommsen, L. A.,Lonnerdal, B. Adequacy of energy intake among breast-fed infants in the DARLING study: relationships to growth velocity, morbidity, and activity levels. Davis Area Research on Lactation, Infant Nutrition and Growth. J Pediatr.1991;119:538-47.	IV
141	Dewey, K. G.,Lonnerdal, B. Milk and nutrient intake of breast-fed infants from 1 to 6 months: relation to growth and fatness. J Pediatr Gastroenterol Nutr.1983;2:497-506.	IV
142	Dewey, K. G.,Peerson, J. M.,Brown, K. H.,Krebs, N. F.,Michaelsen, K. F.,Persson, L. A.,Salmenpera, L.,Whitehead, R. G.,Yeung, D. L. Growth of breast-fed infants deviates from current reference data: a pooled analysis of US, Canadian, and European data sets. World Health Organization Working Group on Infant Growth. Pediatrics.1995;96:495-503.	Design
143	Dewey, K. G.,Peerson, J. M.,Heinig, M. J.,Nommsen, L. A.,Lonnerdal, B.,Lopez de Romana, G.,de Kanashiro, H. C.,Black, R. E.,Brown, K. H. Growth patterns of breast-fed infants in affluent (United States) and poor (Peru) communities: implications for timing of complementary feeding. Am J Clin Nutr.1992;56:1012-8.	IV, DV
144	Dewey, K. G. Complementary feeding and infant growth and body composition. Pediatrics.2000;106:1281.	Design
145	Dewey,K. G.,Cohen,R. J.,Brown,K. H.,Rivera,L. L. Effects of exclusive breastfeeding for four versus six months on maternal nutritional status and infant motor development: results of two randomized trials in Honduras. J Nutr.2001;131:262-7.	Country
146	Dewey,K. G.,Cohen,R. J.,Rivera,L. L.,Brown,K. H. Effects of age of introduction of complementary foods on iron status of breast-fed infants in Honduras. Am J Clin Nutr.1998;67:878-84.	DV
147	Dewey,K. G.,Huffman,S. L. Maternal, infant, and young child nutrition: combining efforts to maximize impacts on child growth and micronutrient status. Food Nutr Bull.2009;30:S187-9.	Design
148	Dewey,K. G.,Romero-Abal,M. E.,Quan de Serrano,J.,Bulux,J.,Peerson,J. M.,Eagle,P.,Solomons,N. W. Effects of discontinuing coffee intake on iron status of iron-deficient Guatemalan toddlers: a randomized intervention study. Am J Clin Nutr.1997;66:168-76.	DV
149	Diaz, S.,Herreros, C.,Aravena, R.,Casado, M. E.,Reyes, M. V.,Schiappacasse, V. Breast-feeding duration and growth of fully breast-fed infants in a poor urban Chilean population. Am J Clin Nutr.1995;62:371-6.	IV, DV
150	Doak, C. M.,van der Starre, R. E.,van Beusekom, I.,Campos Ponce, M.,Vossenaar, M.,Solomons, N. W. Earlier introduction of aguitas is associated with higher risk of stunting in infants and toddlers in the Western Highlands of Guatemala. Am J Clin Nutr.2013;97:631-6.	Design
151	Domellof,M.,Cohen,R. J.,Dewey,K. G.,Hernell,O.,Rivera,L. L.,Lonnerdal,B. Iron supplementation of breast-fed Honduran and Swedish infants from 4 to 9 months of age. J Pediatr.2001;138:679-87.	IV, DV
152	Dong,C.,Ge,P.,Ren,X.,Wang,J.,Fan,H.,Yan,X.,Yin,S. A. Prospective study on the effectiveness of complementary food supplements on improving status of elder infants and young children in the areas affected by Wenchuan earthquake. PLoS One.2013;8:e72711.	Design, Health status

153	Donma, M. M.,Donma, O. Infant feeding and growth: a study on Turkish infants from birth to 6 months. Pediatr Int.1999;41:542-8.	IV
154	Donma, M. M.,Donma, O. The influence of feeding patterns on head circumference among Turkish infants during the first 6 months of life. Brain Dev.1997;19:393-7.	IV
155	Dubakiene, R.,Rudzeviciene, O.,Butiene, I.,Sezaite, I.,Petronyte, M.,Vaicekauskaite, D.,Zvirbliene, A. Studies on early allergic sensitization in the Lithuanian birth cohort. ScientificWorldJournal.2012;2012:909524.	IV, DV
156	Dubois, L.,Girard, M. Breast-feeding, day-care attendance and the frequency of antibiotic treatments from 1.5 to 5 years: a population-based longitudinal study in Canada. Soc Sci Med.2005;60:2035-44.	IV, DV
157	Dubois, L.,Girard, M. Social inequalities in infant feeding during the first year of life. The Longitudinal Study of Child Development in Quebec (LSCDQ 1998-2002). Public Health Nutr.2003;6:773-83.	IV, DV
158	Dubowitz, T.,Levinson, D.,Peterman, J. N.,Verma, G.,Jacob, S.,Schultink, W. Intensifying efforts to reduce child malnutrition in India: an evaluation of the Dular program in Jharkhand, India. Food Nutr Bull.2007;28:266-73.	IV
159	Duggan,C.,Penny,M. E.,Hibberd,P.,Gil,A.,Huapaya,A.,Cooper,A.,Coletta,F.,Emenhiser,C.,Kleinman,R. E. Oligofructose-supplemented infant cereal: 2 randomized, blinded, community-based trials in Peruvian infants. Am J Clin Nutr.2003;77:937-42.	IV
160	Dunne,A. Nutrition in infancy: achieving nutrition needs for new mothers and children. Br J Community Nurs.2012;Suppl:S22.	Design
161	Edmondson, L. What toddlers eat really matters. J Fam Health Care.2011;21:33-41.	Design
162	El-Sayed H,Martines J,Rakha M,Zekry O,Abdel-Hak M,Abbas H. The effectiveness of the WHO training course on complementary feeding counseling in a primary care setting, Ismailia, Egypt. J Egypt Public Health Assoc.2014;89:1-8.	IV
163	Elwood, P. C.,Haley, T. J.,Hughes, S. J.,Sweetnam, P. M.,Gray, O. P.,Davies, D. P. Child growth (0-5 years), and the effect of entitlement to a milk supplement. Arch Dis Child.1981;56:831-5.	IV
164	Emmett,P. M.,Jones,L. R. Diet and growth in infancy: relationship to socioeconomic background and to health and development in the Avon Longitudinal Study of Parents and Children. Nutr Rev.2014;72:483-506.	Design
165	Emond A,Drewett R,Blair P,Emmett P. Postnatal factors associated with failure to thrive in term infants in the Avon Longitudinal Study of Parents and Children. Arch Dis Child.2007;92:115-9.	IV
166	Eneroth,H.,El Arifeen,S.,Persson,L. A.,Kabir,I.,Lonnerdal,B.,Hossain,M. B.,Ekstrom,E. C. Duration of exclusive breast-feeding and infant iron and zinc status in rural Bangladesh. J Nutr.2009;139:1562-7.	IV, DV
167	Engelmann,M. D.,Davidsson,L.,Sandstrom,B.,Walczyk,T.,Hurrell,R. F.,Michaelsen,K. F. The influence of meat on nonheme iron absorption in infants. Pediatr Res.1998;43:768-73.	DV
168	England, L.,Brenner, R.,Bhaskar, B.,Simons-Morton, B.,Das, A.,Revenis, M.,Mehta, N.,Clemens, J. Breastfeeding practices in a cohort of inner-city women: the role of contraindications. BMC Public Health.2003;3:28.	IV, DV
169	Escribano, J.,Luque, V.,Ferre, N.,Mendez-Riera, G.,Koletzko, B.,Grote, V.,Demmelmair, H.,Bluck, L.,Wright, A.,Closa-Monasterolo, R. Effect of protein intake and weight gain velocity on body fat mass at 6 months of age: the EU Childhood Obesity Programme. Int J Obes (Lond).2012;36:548-53.	IV
170	Esfarjani, F.,Azar, M. R.,Gafarpour, M. IDDM and early exposure of infant to cow's milk and solid food. Indian J Pediatr.2001;68:107-10.	DV

171	Evans, D.,Hansen, J. D.,Moodie, A. D.,van der Spuy, H. I. Intellectual development and nutrition. J Pediatr.1980;97:358-63.	Health status, IV
172	Exl, B. M.,Deland, U.,Secretin, M. C.,Preysch, U.,Wall, M.,Shmerling, D. H. Improved general health status in an unselected infant population following an allergen reduced dietary intervention programme. The ZUFF-study-programme. Part I: Study design and 6-month nutritional behaviour. Eur J Nutr.2000;39:89-102.	DV
173	Exl, B. M.,Deland, U.,Secretin, M. C.,Preysch, U.,Wall, M.,Shmerling, D. H. Improved general health status in an unselected infant population following an allergen-reduced dietary intervention programme: the ZUFF-STUDY-PROGRAMME. Part II: infant growth and health status to age 6 months. ZUg-FrauenFeld. Eur J Nutr.2000;39:145-56.	IV
174	Faber,M.,Kvalsvig,J. D.,Lombard,C. J.,Benade,A. J. Effect of a fortified maize-meal porridge on anemia, micronutrient status, and motor development of infants. Am J Clin Nutr.2005;82:1032-9.	Country
175	Faber,M. Dietary intake and anthropometric status differ for anaemic and non-anaemic rural South African infants aged 6-12 months. J Health Popul Nutr.2007;25:285-93.	Design
176	Fabiansen, C.,Phelan, K. P.,Cichon, B.,Ritz, C.,Briend, A.,Michaelsen, K. F.,Friis, H.,Shepherd, S. Short children with a low midupper arm circumference respond to food supplementation: an observational study from Burkina Faso. Am J Clin Nutr.2016;103:415-21.	Health status
177	Fabius, R. J.,Merritt, R. J.,Fleiss, P. M.,Ashley, J. M. Malnutrition associated with a formula of barley water, corn syrup, and whole milk. Am J Dis Child.1981;135:615-7.	Design
178	Falkner, F. Introduction of food to infants. Genetic-environmental considerations. Am J Clin Nutr.1985;41:436-9.	Design
179	Fall CH,Borja JB,Osmond C,Richter L,Bhargava SK,Martorell R,Stein AD,Barros FC,Victora CG. Infant-feeding patterns and cardiovascular risk factors in young adulthood: data from five cohorts in low- and middle-income countries. Int J Epidemiol.2011;40:47-62.	Design
180	Farris, R. P.,Frank, G. C.,Webber, L. S.,Srinivasan, S. R.,Berenson, G. S. Influence of milk source on serum lipids and lipoproteins during the first year of life, Bogalusa heart study. Am J Clin Nutr.1982;35:42-9.	IV
181	Farrow, C. V.,Blissett, J. Controlling feeding practices: cause or consequence of early child weight?. Pediatrics.2008;121:e164-9.	IV
182	Farrow, C.,Blissett, J. Does maternal control during feeding moderate early infant weight gain?. Pediatrics.2006;118:e293-8.	IV
183	Fawcett, J. N. Feeding from birth to 18 months. Nursing (Lond).1981:956-8.	Design
184	Feldens CA,Vitolo MR,Rauber F,Cruz LN,Hilgert JB. Risk factors for discontinuing breastfeeding in southern Brazil: a survival analysis. Matern Child Health J.2012;16:1257-65.	IV, DV
185	Feldens, C. A.,Ardenghi, T. M.,Cruz, L. N.,Scalco, G. P.,Vitolo, M. R. Advising mothers about breastfeeding and weaning reduced pacifier use in the first year of life: a randomized trial. Community Dent Oral Epidemiol.2013;41:317-26.	IV, DV
186	Feldens, C. A.,Kramer, P. F.,Sequeira, M. C.,Rodrigues, P. H.,Vitolo, M. R. Maternal education is an independent determinant of cariogenic feeding practices in the first year of life. Eur Arch Paediatr Dent.2012;13:70-5.	DV
187	Fergusson, D. M.,Woodward, L. J. Breast feeding and later psychosocial adjustment. Paediatr Perinat Epidemiol.1999;13:144-57.	IV

188	Fernandes, T. A.,Werneck, G. L.,Hasselmann, M. H. Prepregnancy weight, weight gain during pregnancy, and exclusive breastfeeding in the first month of Life in Rio de Janeiro, Brazil. J Hum Lact.2012;28:55-61.	IV, DV
189	Fernstrom, J. D.,Navia, J. L. Introduction to the workshop. Low-calorie sweeteners and weight control--what the science tells us. J Nutr.2012;142:1132s-3s.	Design
190	Ferrara,M.,Bertocco,F.,Ricciardi,A.,Ferrara,D.,Incarnato,L.,Capozzi,L. Iron deficiency screening in the first three years of life: a three-decade-long retrospective case study. Hematology.2014;19:239-43.	DV
191	Fildes, A.,van Jaarsveld, C. H.,Llewellyn, C.,Wardle, J.,Fisher, A. Parental control over feeding in infancy. Influence of infant weight, appetite and feeding method. Appetite.2015;91:101-6.	IV, DV
192	Fisher, J. O.,Birch, L. L.,Smiciklas-Wright, H.,Picciano, M. F. Breast-feeding through the first year predicts maternal control in feeding and subsequent toddler energy intakes. J Am Diet Assoc.2000;100:641-6.	IV, DV
193	Flax, V. L.,Bentley, M. E.,Chasela, C. S.,Kayira, D.,Hudgens, M. G.,Kacheche, K. Z.,Chavula, C.,Kourtis, A. P.,Jamieson, D. J.,van der Horst, C. M.,Adair, L. S. Lipid-based nutrient supplements are feasible as a breastmilk replacement for HIV-exposed infants from 24 to 48 weeks of age. J Nutr.2013;143:701-7.	Health status, IV
194	Fomon SJ,Ziegler EE,Nelson SE,Edwards BB. Sweetness of diet and food consumption by infants. Proc Soc Exp Biol Med.1983;173:190-3.	IV, DV
195	Fomon, S. J.,Rogers, R. R.,Ziegler, E. E.,Nelson, S. E.,Thomas, L. N. Indices of fatness and serum cholesterol at age eight years in relation to feeding and growth during early infancy. Pediatr Res.1984;18:1233-8.	IV, Date
196	Forns,J.,Torrent,M.,Garcia-Esteban,R.,Caceres,A.,Pilar Gomila,M.,Martinez,D.,Morales,E.,Julvez,J.,Grimalt,J. O.,Sunyer,J. Longitudinal association between early life socio-environmental factors and attention function at the age 11 years. Environ Res.2012;117:54-9.	IV
197	Foroushani, A. R.,Mohammad, K.,Mahmoodi, M.,Siassi, F. Effect of breastfeeding on cognitive performance in a British birth cohort. East Mediterr Health J.2010;16:202-8.	IV
198	Franks, A. J.,Jurgensen, C. Nutrition and health in the first year of life on a Pacific atoll. Observations on Abemama Atoll, Central Pacific. Trans R Soc Trop Med Hyg.1985;79:681-4.	IV, DV
199	Frederiksen,B. N.,Seifert,J.,Kroehl,M.,Lamb,M. M.,Milne,G. L.,Rewers,M.,Norris,J. M. Timing of solid food introduction is associated with urinary F2-isoprostane concentrations in childhood. Pediatric Research.2015;78:451-456.	DV
200	Freeman, V.,van't Hof, M.,Haschke, F. Patterns of milk and food intake in infants from birth to age 36 months: the Euro-growth study. J Pediatr Gastroenterol Nutr.2000;31 Suppl 1:S76-85.	DV
201	Freeman,V. E.,Mulder,J.,van't Hof,M. A.,Hoey,H. M.,Gibney,M. J. A longitudinal study of iron status in children at 12, 24 and 36 months. Public Health Nutr.1998;1:93-100.	DV
202	Friel,J. K.,Andrews,W. L.,Simmons,B. S.,L'Abbe,M. R.,Mercer,C.,MacDonald,A.,McCloy,U. R. Evaluation of full-term infants fed an evaporated milk formula. Acta Paediatr.1997;86:448-53.	IV
203	Froozani, M. D.,Malekafzali, H.,Bahrini, B. Growth of a group of low income infants in the first year of life. J Trop Pediatr.1980;26:96-8.	Design, IV
204	Fuchs Iii, G. J.,Gastanaduy, A. S.,Suskind, R. M. Comparative metabolic study of older infants fed infant formula, transition formula, or whole cow's milk. Nutrition Research.1992;12:1467-1478.	IV
205	Fuchs, G. J.,Farris, R. P.,DeWier, M.,Hutchinson, S.,Strada, R.,Suskind, R. M. Effect of dietary fat on cardiovascular risk factors in	IV

	infancy. Pediatrics.1994;93:756-63.	
206	Gabriel, C. G.,Corso, A. C.,Caldeira, G. V.,Gimeno, S. G.,Schmitz Bde, A.,de Vasconcelos Fde, A. Overweight and obesity related factors in schoolchildren in Santa Catarina State, Brazil. Arch Latinoam Nutr.2010;60:332-9.	Design
207	Gaffney, K. F.,Brito, A. V.,Kitsantas, P.,Kermer, D. A. Early Feeding Practices and Weight Status at One Year of Age: A Comparison of Hispanic Immigrant Mother-Infant Dyads with Participants of the Infant Feeding Practices Study II. Child Obes.2016.	IV, DV
208	Gale, C.,Thomas, E. L.,Jeffries, S.,Durighel, G.,Logan, K. M.,Parkinson, J. R.,Uthaya, S.,Santhakumaran, S.,Bell, J. D.,Modi, N. Adiposity and hepatic lipid in healthy full-term, breastfed, and formula-fed human infants: a prospective short-term longitudinal cohort study. Am J Clin Nutr.2014;99:1034-40.	IV
209	Galler, J. R.,Ramsey, F. C.,Harrison, R. H.,Brooks, R.,Weiskopf-Bock, S. Infant feeding practices in Barbados predict later growth. J Nutr.1998;128:1328-35.	IV
210	Gallo PV. Physiological and behavioral consequences of maternal and post-weaning protein restriction. Physiol Behav.1981;26:77-84.	Design, Health status
211	Galtry, J. Punching above its weight: does New Zealand's responsibility for protecting, promoting, and supporting breastfeeding extend beyond its own borders?. J Hum Lact.2013;29:128-31.	Design
212	Garza, C. The INTERGROWTH-21st project and the multicenter growth reference study: enhanced opportunities for monitoring growth from early pregnancy to 5 years of age. Breastfeed Med.2014;9:341-4.	Design
213	Geuns, M.,Huisinga, C.,van Staveren, W. A.,Deurenberg, P.,Hautvast, J. G. Intakes of energy, protein and calcium and weaning pattern of a group of Dutch infants aged 6-12 months. Tijdschr Kindergeneeskd.1985;53:50-6.	Design, IV, DV
214	Ghorashi,Z.,Nezami,N.,Ghalehgolab Behbahan,A.,Ghorashi,S. Supplemental food may not prevent iron-deficiency anemia in infants. Indian J Pediatr.2008;75:1121-4.	DV
215	Ghosh,S.,Kilaru,A.,Ganapathy,S. Nutrition education and infant growth in rural Indian infants: narrowing the gender gap?. J Indian Med Assoc.2002;100:483-4, 486-8, 490.	IV
216	Gianni, M. L.,Roggero, P.,Morlacchi, L.,Garavaglia, E.,Piemontese, P.,Mosca, F. Formula-fed infants have significantly higher fat-free mass content in their bodies than breastfed babies. Acta Paediatr.2014;103:e277-81.	IV
217	Gibson,R. S.,Hotz,C. The adequacy of micronutrients in complementary foods. Pediatrics.2000;106:1298-9.	Design
218	Gill, D. G.,Vincent, S.,Segal, D. S. Follow-on formula in the prevention of iron deficiency: a multicentre study. Acta Paediatr.1997;86:683-9.	IV
219	Gillman, M. W.,Rifas-Shiman, S. L.,Camargo, C. A., Jr.,Berkey, C. S.,Frazier, A. L.,Rockett, H. R.,Field, A. E.,Colditz, G. A. Risk of overweight among adolescents who were breastfed as infants. Jama.2001;285:2461-7.	Design
220	Gokcay, G.,Turan, J. M.,Partalci, A.,Neyzi, O. Growth of infants during the first year of life according to feeding regimen in the first 4 months. J Trop Pediatr.2003;49:6-12.	IV
221	Golley,R. K.,Smithers,L. G.,Mittinty,M. N.,Brazionis,L.,Emmett,P.,Northstone,K.,Campbell,K.,McNaughton,S. A.,Lynch,J. W. An index measuring adherence to complementary feeding guidelines has convergent validity as a measure of infant diet quality. J Nutr.2012;142:901-8.	IV, DV

222	Gomez Santos, S. F.,Estevez Santiago, R.,Palacios Gil-Antunano, N.,Leis Trabazo, M. R.,Tojo Sierra, R.,Cuadrado Vives, C.,Beltran de Miguel, B.,Avila Torres, J. M.,Varela Moreiras, G.,Casas Esteve, R. THAO-CHILD HEALTH PROGRAMME: COMMUNITY BASED INTERVENTION FOR HEALTHY LIFESTYLES PROMOTION TO CHILDREN AND FAMILIES: RESULTS OF A COHORT STUDY. Nutr Hosp.2015;32:2584-7.	Age
223	Gomez-Sanchiz, M.,Canete, R.,Rodero, I.,Baeza, J. E.,Avila, O. Influence of breast-feeding on mental and psychomotor development. Clin Pediatr (Phila).2003;42:35-42.	IV
224	Gomez-Sanchiz, M.,Canete, R.,Rodero, I.,Baeza, J. E.,Gonzalez, J. A. Influence of breast-feeding and parental intelligence on cognitive development in the 24-month-old child. Clin Pediatr (Phila).2004;43:753-61.	IV
225	Gong, Y. H.,Ji, C. Y.,Zheng, X. X.,Shan, J. P.,Hou, R. Correlation of 4-month infant feeding modes with their growth and iron status in Beijing. Chin Med J (Engl).2008;121:392-8.	IV
226	Gooze, R. A.,Anderson, S. E.,Whitaker, R. C. Prolonged bottle use and obesity at 5.5 years of age in US children. J Pediatr.2011;159:431-6.	IV
227	Greene, L. C.,Lucas, A.,Livingstone, M. B.,Harland, P. S.,Baker, B. A. Relationship between early diet and subsequent cognitive performance during adolescence. Biochem Soc Trans.1995;23:376s.	Design, IV
228	Greer,F. R.,Searcy,J. E.,Levin,R. S.,Steichen,J. J.,Steichen-Asche,P. S.,Tsang,R. C. Bone mineral content and serum 25-hydroxyvitamin D concentrations in breast-fed infants with and without supplemental vitamin D: one-year follow-up. J Pediatr.1982;100:919-22.	IV
229	Grote, V.,von Kries, R.,Closa-Monasterolo, R.,Scaglioni, S.,Gruszfeld, D.,Sengier, A.,Langhendries, J. P.,Koletzko, B. Protein intake and growth in the first 24 months of life. J Pediatr Gastroenterol Nutr.2010;51 Suppl 3:S117-8.	Design, IV
230	Gruszfeld, D.,Weber, M.,Nowakowska-Rysz, M.,Janas, R.,Kozlik-Feldmann, R.,Xhonneux, A.,Carlier, C.,Riva, E.,Verduci, E.,Closa-Monasterolo, R.,Escribano, J.,Dobrzanska, A.,Koletzko, B. Protein intake in infancy and carotid intima media thickness at 5 years--a secondary analysis from a randomized trial. Ann Nutr Metab.2015;66:51-9.	IV
231	Gubbels, J. S.,Thijs, C.,Stafleu, A.,van Buuren, S.,Kremers, S. P. Association of breast-feeding and feeding on demand with child weight status up to 4 years. Int J Pediatr Obes.2011;6:e515-22.	IV, DV
232	Gunderson, E. P.,Hurston, S. R.,Dewey, K. G.,Faith, M. S.,Charvat-Aguilar, N.,Khoury, V. C.,Nguyen, V. T.,Quesenberry, C. P., Jr. The study of women, infant feeding and type 2 diabetes after GDM pregnancy and growth of their offspring (SWIFT Offspring study): prospective design, methodology and baseline characteristics. BMC Pregnancy Childbirth.2015;15:150.	Design
233	Gunnarsdottir I,Schack-Nielsen L,Michaelsen KF,Sorensen TI,Thorsdottir I. Infant weight gain, duration of exclusive breast-feeding and childhood BMI - two similar follow-up cohorts. Public Health Nutr.2010;13:201-7.	IV
234	Gunnarsdottir, I.,Thorsdottir, I. Relationship between growth and feeding in infancy and body mass index at the age of 6 years. Int J Obes Relat Metab Disord.2003;27:1523-7.	IV
235	Gunther, A. L.,Buyken, A. E.,Kroke, A. Protein intake during the period of complementary feeding and early childhood and the association with body mass index and percentage body fat at 7 y of age. Am J Clin Nutr.2007;85:1626-33.	IV
236	Gunther, A. L.,Buyken, A. E.,Kroke, A. The influence of habitual protein intake in early childhood on BMI and age at adiposity rebound: results from the DONALD Study. Int J Obes (Lond).2006;30:1072-9.	IV
237	Gurnida, D. A.,Rowan, A. M.,Idjradinata, P.,Muchtadi, D.,Sekarwana, N. Association of complex lipids containing gangliosides with cognitive development of 6-month-old infants. Early Hum Dev.2012;88:595-601.	IV

238	Hamilton, K.,Daniels, L.,White, K. M.,Murray, N.,Walsh, A. Predicting mothers' decisions to introduce complementary feeding at 6 months. An investigation using an extended theory of planned behaviour. Appetite.2011;56:674-81.	IV, DV
239	Hammer, L. D.,Bryson, S.,Agras, W. S. Development of feeding practices during the first 5 years of life. Arch Pediatr Adolesc Med.1999;153:189-94.	DV
240	Han,Y. H.,Yon,M.,Han,H. S.,Johnston,K. E.,Tamura,T.,Hyun,T. Zinc status and growth of Korean infants fed human milk, casein-based, or soy-based formula: three-year longitudinal study. Nutr Res Pract.2011;5:46-51.	IV
241	Harbild, H. L.,Harslof, L. B.,Christensen, J. H.,Kannass, K. N.,Lauritzen, L. Fish oil-supplementation from 9 to 12 months of age affects infant attention in a free-play test and is related to change in blood pressure. Prostaglandins Leukot Essent Fatty Acids.2013;89:327-33.	IV
242	Harit D,Faridi MM,Aggarwal A,Sharma SB. Lipid profile of term infants on exclusive breastfeeding and mixed feeding: a comparative study. Eur J Clin Nutr.2008;62:203-9.	IV
243	Harrington,M.,Hotz,C.,Zeder,C.,Polvo,G. O.,Villalpando,S.,Zimmermann,M. B.,Walczyk,T.,Rivera,J. A.,Hurrell,R. F. A comparison of the bioavailability of ferrous fumarate and ferrous sulfate in non-anemic Mexican women and children consuming a sweetened maize and milk drink. Eur J Clin Nutr.2011;65:20-5.	IV, DV
244	Harris,R. Inadequate diets: short- and long-term problems. J Fam Health Care.2002;12:6.	Design
245	Hasan,J.,Ray,J.,Khan,Z. Role of weaning in the nutritional status of infant--a longitudinal study in the rural area of Aligarh. J Indian Med Assoc.1996;94:169, 215.	Design, IV, DV
246	Haschke, F.,Pietschnig, B.,Vanura, H.,Heil, M.,Steffan, I.,Hobiger, G.,Schuster, E.,Camaya, Z. Iron intake and iron nutritional status of infants fed iron-fortified beikost with meat. Am J Clin Nutr.1988;47:108-12.	IV
247	Hawley, N. L.,Johnson, W.,Nu'usolia, O.,McGarvey, S. T. The contribution of feeding mode to obesogenic growth trajectories in American Samoan infants. Pediatr Obes.2014;9:e1-e13.	IV
248	Hay,G.,Johnston,C.,Whitelaw,A.,Trygg,K.,Refsum,H. Folate and cobalamin status in relation to breastfeeding and weaning in healthy infants. Am J Clin Nutr.2008;88:105-14.	DV
249	Hediger, M. L.,Overpeck, M. D.,Ruan, W. J.,Troendle, J. F. Early infant feeding and growth status of US-born infants and children aged 4-71 mo: analyses from the third National Health and Nutrition Examination Survey, 1988-1994. Am J Clin Nutr.2000;72:159-67.	Design, IV
250	Hegar, B.,Dewanti, N. R.,Kadim, M.,Alatas, S.,Firmansyah, A.,Vandenplas, Y. Natural evolution of regurgitation in healthy infants. Acta Paediatr.2009;98:1189-93.	IV, DV
251	Heine, W.,Lapsien, C. Influence of early breast milk and formula feeding on body weight in children born in Rostock since 1945. Bibl Nutr Dieta.1982:17-8.	Design
252	Herbst, A.,Diethelm, K.,Cheng, G.,Alexy, U.,Icks, A.,Buyken, A. E. Direction of associations between added sugar intake in early childhood and body mass index at age 7 years may depend on intake levels. J Nutr.2011;141:1348-54.	IV
253	Hess,S. Y.,Abbeddou,S.,Jimenez,E. Y.,Somé,J. W.,Vosti,S. A.,Ouédraogo,Z. P.,Guissou,R. M.,Ouédraogo,J. B.,Brown,K. H. Small-quantity lipid-based nutrient supplements, regardless of their zinc content, increase growth and reduce the prevalence of stunting and Wasting in young burkinabe children: A cluster-randomized trial. PLoS ONE.2015;10.	IV, Country
254	Hettiarachchi,M.,Lekamwasam,S.,Liyanage,C. Long-term cereal-based nutritional supplementation improved the total spine bone mineral density amongst Sri Lankan preschool children: a randomized controlled study. J Pediatr Endocrinol Metab.2010;23:555-63.	IV, Age

255	Hijazi, S. S.,Abulaban, A.,Waterlow, J. C. The duration for which exclusive breast-feeding is adequate. A study in Jordan. Acta Paediatr Scand.1989;78:23-8.	IV
256	Hillis, S. D.,Weigle, K.,Miranda, C. M.,McCann, M.,Bender, D.,Stewart, P. Supplementary feeding in Colombian child-care centers and growth velocity. Pediatrics.1994;94:1066-9.	IV
257	Hitchcock, N. E.,Gracey, M.,Gilmour, A. I. The growth of breast fed and artificially fed infants from birth to twelve months. Acta Paediatr Scand.1985;74:240-5.	IV
258	Hitchcock, N. E.,McGuiness, D.,Gracey, M. Growth and feeding practices of Western Australian infants. Med J Aust.1982;1:372-6.	Design, IV, DV, Date
259	Hitchcock, N. E.,Owles, E. N.,Gracey, M. Breast feeding and growth of healthy infants. Med J Aust.1981;2:536-7.	IV, DV, Date
260	Hoffman, D. R.,Garfield, S.,Morale, S. E.,Bosworth, R. G.,Castaneda, Y. S.,Wheaton, D. K. H.,Theuer, R. C.,Birch, E. E. Visual and neural development of breast-fed infants receiving docosahexaenoic acid (dha)-enriched baby food: a randomized clinical trial. Iovs.2004;45:ARVO E-abstract 3510.	Design
261	Hokama,T. Levels of serum ferritin and total body iron among infants with different feeding regimens. Acta Paediatr Jpn.1993;35:298-301.	IV, DV
262	Holgerson PL,Vestman NR,Claesson R,Ohman C,Domellof M,Tanner AC,Hernell O,Johansson I. Oral microbial profile discriminates breast-fed from formula-fed infants. J Pediatr Gastroenterol Nutr.2013;56:127-36.	Design, IV, DV
263	Hop le, T.,Berger, J. Multiple micronutrient supplementation improves anemia, micronutrient nutrient status, and growth of Vietnamese infants: double-blind, randomized, placebo-controlled trial. J Nutr.2005;135:660s-665s.	IV
264	Hop, L. T.,Gross, R.,Giay, T.,Sastroamidjojo, S.,Schultink, W.,Lang, N. T. Premature complementary feeding is associated with poorer growth of vietnamese children. J Nutr.2000;130:2683-90.	Country
265	Hop, L. T.,Gross, R.,Giay, T.,Schultink, W.,Thuan, B. T.,Sastroamidjojo, S. Longitudinal observation of growth of Vietnamese children in Hanoi, Vietnam from birth to 10 years of age. Eur J Clin Nutr.1997;51:164-71.	IV, DV
266	Hopkins, D.,Steer, C. D.,Northstone, K.,Emmett, P. M. Effects on childhood body habitus of feeding large volumes of cow or formula milk compared with breastfeeding in the latter part of infancy. Am J Clin Nutr.2015;102:1096-103.	IV
267	Hopkins,D.,Emmett,P.,Steer,C.,Rogers,I.,Noble,S.,Emond,A. Infant feeding in the second 6 months of life related to iron status: an observational study. Arch Dis Child.2007;92:850-4.	DV
268	Hoppe, C.,Molgaard, C.,Thomsen, B. L.,Juul, A.,Michaelsen, K. F. Protein intake at 9 mo of age is associated with body size but not with body fat in 10-y-old Danish children. Am J Clin Nutr.2004;79:494-501.	IV
269	Horodynski, M. A.,Baker, S.,Van Egeren, L.,Olson, B.,Brophy-Herb, H.,Auld, G. The healthy babies curriculum. J Nutr Educ Behav.2014;46:151-2.	Design, IV
270	Horta, B. L.,Bas, A.,Bhargava, S. K.,Fall, C. H.,Feranil, A.,de Kadt, J.,Martorell, R.,Richter, L. M.,Stein, A. D.,Victora, C. G. Infant feeding and school attainment in five cohorts from low- and middle-income countries. PLoS One.2013;8:e71548.	Design
271	Horwood, L. J.,Fergusson, D. M. Breastfeeding and later cognitive and academic outcomes. Pediatrics.1998;101:E9.	IV
272	Hosaka, M.,Asayama, K.,Staessen, J. A.,Ohkubo, T.,Hayashi, K.,Tatsuta, N.,Kurokawa, N.,Satoh, M.,Hashimoto, T.,Hirose, T.,Obara, T.,Metoki, H.,Inoue, R.,Kikuya, M.,Nakai, K.,Imai, Y.,Satoh, H. Breastfeeding leads to lower blood pressure in 7-year-old Japanese children: Tohoku Study of Child Development. Hypertens Res.2013;36:117-22.	IV, DV

273	Hudara S,Mimouni F,Rachman Y,Dayan B,Silbermintz A,Turner D. Retrospective cohort study of a new infant formula during the first 6 months of life: reflections on growth curves, human milk and formula feeding. Isr Med Assoc J.2010;12:676-80.	IV
274	Hurley, K. M.,Black, M. M. Introduction to a supplement on responsive feeding: promoting healthy growth and development for infants and toddlers. J Nutr.2011;141:489.	Design
275	Husaini, M. A.,Karyadi, L.,Husaini, Y. K.,Sandjaja,,Karyadi, D.,Pollitt, E. Developmental effects of short-term supplementary feeding in nutritionally-at-risk Indonesian infants. Am J Clin Nutr.1991;54:799-804.	Country
276	Inostroza, J.,Haschke, F.,Steenhout, P.,Grathwohl, D.,Nelson, S. E.,Ziegler, E. E. Low-protein formula slows weight gain in infants of overweight mothers. J Pediatr Gastroenterol Nutr.2014;59:70-7.	IV
277	Isherwood,R. J.,Dimond,C.,Longhurst,S. Breast feeding and weaning practices in relation to nutritional status of under-5 children in north Bangladesh. J Trop Pediatr.1988;34:28-31.	Design
278	Islam, M. M.,Peerson, J. M.,Ahmed, T.,Dewey, K. G.,Brown, K. H. Effects of varied energy density of complementary foods on breast-milk intakes and total energy consumption by healthy, breastfed Bangladeshi children. Am J Clin Nutr.2006;83:851-8.	IV, DV
279	Jackson, D. A.,Imong, S. M.,Wongsawasdii, L.,Silprasert, A.,Preunglampoo, S.,Leelapat, P.,Drewett, R. F.,Amatayakul, K.,Baum, J. D. Weaning practices and breast-feeding duration in Northern Thailand. Br J Nutr.1992;67:149-64.	IV, DV
280	Jackson,M. I. Early childhood WIC participation, cognitive development and academic achievement. Soc Sci Med.2015;126:145-53.	IV
281	Jacobson, S. W.,Chiodo, L. M.,Jacobson, J. L. Breastfeeding effects on intelligence quotient in 4- and 11-year-old children. Pediatrics.1999;103:e71.	IV
282	Jain,V.,Klein,B. P.,Nash,M.,Chapman-Novakofski,K. Two feasibility studies for introduction of multimicronutrient soy/whey-based supplements in rural homes in Honduras. Journal of Hunger and Environmental Nutrition.2011;6:247-263.	IV
283	Jansen,G.R.,O'B Hourihane. The nutritional status of preschool children in Egypt. World Rev Nutr Diet.1985;45:42-67.	Design
284	Jatanasen,A.,Sacholvicharn,V.,Ongkulna,P. An evaluation of supplementary feedings of Thai infants in urban slum communities: effect on growth, health and nutritional status. J Med Assoc Thai.1983;66 Suppl 1:20-9.	Design, Health status
285	Jensen, B. W.,Nichols, M.,Allender, S.,de Silva-Sanigorski, A.,Millar, L.,Kremer, P.,Lacy, K.,Swinburn, B. Inconsistent associations between sweet drink intake and 2-year change in BMI among Victorian children and adolescents. Pediatr Obes.2013;8:271-83.	Age
286	Jensen, S. M.,Ritz, C.,Ejlerskov, K. T.,Molgaard, C.,Michaelsen, K. F. Infant BMI peak, breastfeeding, and body composition at age 3 y. Am J Clin Nutr.2015;101:319-25.	IV
287	Jensen,C. L.,Prager,T. C.,Zou,Y.,Fraley,J. K.,Maude,M.,Anderson,R. E.,Heird,W. C. Effects of maternal docosahexaenoic acid supplementation on visual function and growth of breast-fed term infants. Lipids.1999;34 Suppl:S225.	Design, IV
288	Jones, G.,Hynes, K. L.,Dwyer, T. The association between breastfeeding, maternal smoking in utero, and birth weight with bone mass and fractures in adolescents: a 16-year longitudinal study. Osteoporos Int.2013;24:1605-11.	IV
289	Jones, G.,Riley, M.,Dwyer, T. Breastfeeding in early life and bone mass in prepubertal children: a longitudinal study. Osteoporos Int.2000;11:146-52.	IV
290	Jooste, P. L.,Rossouw, L. J.,Steenkamp, H. J.,Rossouw, J. E.,Swanepoel, A. S.,Charlton, D. O. Effect of breast feeding on the plasma cholesterol and growth of infants. J Pediatr Gastroenterol Nutr.1991;13:139-42.	IV

291	Joseph, N.,Unnikrishnan, B.,Naik, V. A.,Mahantshetti, N. S.,Mallapur, M. D.,Kotian, S. M.,Nelliyanil, M. Infant rearing practices in South India: a longitudinal study. J Family Med Prim Care.2013;2:37-43.	Country
292	Joshi N,Agho KE,Dibley MJ,Senarath U,Tiwari K. Determinants of inappropriate complementary feeding practices in young children in Nepal: secondary data analysis of Demographic and Health Survey 2006. Matern Child Nutr.2012;8 Suppl 1:45-59.	Design, Country
293	Juez, G.,Diaz, S.,Casado, M. E.,Duran, E.,Salvatierra, A. M.,Peralta, O.,Croxatto, H. B. Growth pattern of selected urban Chilean infants during exclusive breast-feeding. Am J Clin Nutr.1983;38:462-8.	IV
294	Jung, E.,Czajka-Narins, D. M. Birth weight doubling and tripling times: an updated look at the effects of birth weight, sex, race and type of feeding. Am J Clin Nutr.1985;42:182-9.	IV
295	Kagura, J.,Feeley, A. B.,Micklesfield, L. K.,Pettifor, J. M.,Norris, S. A. Association between infant nutrition and anthropometry, and pre-pubertal body composition in urban South African children. J Dev Orig Health Dis.2012;3:415-23.	Country
296	Kainonen E,Rautava S,Isolauri E. Immunological programming by breast milk creates an anti-inflammatory cytokine milieu in breast-fed infants compared to formula-fed infants. Br J Nutr.2013;109:1962-70.	IV, DV
297	Kajantie, E.,Barker, D. J.,Osmond, C.,Forsen, T.,Eriksson, J. G. Growth before 2 years of age and serum lipids 60 years later: the Helsinki Birth Cohort study. Int J Epidemiol.2008;37:280-9.	DV
298	Kallio, M. J.,Salmenpera, L.,Siimes, M. A.,Perheentupa, J.,Miettinen, T. A. Tracking of serum cholesterol and lipoprotein levels from the first year of life. Pediatrics.1993;91:949-54.	IV, DV
299	Kallio,M. J.,Salmenpera,L.,Siimes,M. A.,Perheentupa,J.,Miettinen,T. A. Exclusive breast-feeding and weaning: effect on serum cholesterol and lipoprotein concentrations in infants during the first year of life. Pediatrics.1992;89:663-6.	IV, DV
300	Karaolis-Danckert, N.,Buyken, A. E.,Kulig, M.,Kroke, A.,Forster, J.,Kamin, W.,Schuster, A.,Hornberg, C.,Keil, T.,Bergmann, R. L.,Wahn, U.,Lau, S. How pre- and postnatal risk factors modify the effect of rapid weight gain in infancy and early childhood on subsequent fat mass development: results from the Multicenter Allergy Study 90. Am J Clin Nutr.2008;87:1356-64.	IV
301	Karlsland Akeson, P. K.,Axelsson, I. E.,Raiha, N. C.,Warm, A.,Minoli, I.,Moro, G. Protein intake and metabolism in formula-fed infants given Swedish or Italian weaning foods. Acta Paediatr.2000;89:158-64.	IV
302	Karlsson Videhult, F.,Ohlund, I.,Stenlund, H.,Hernell, O.,West, C. E. Probiotics during weaning: a follow-up study on effects on body composition and metabolic markers at school age. Eur J Nutr.2015;54:355-63.	IV
303	Kattelmann,K. K.,Ho,M.,Specker,B. L. Effect of timing of introduction of complementary foods on iron and zinc status of formula fed infants at 12, 24, and 36 months of age. J Am Diet Assoc.2001;101:443-7.	DV
304	Kavanagh, K. F.,Cohen, R. J.,Heinig, M. J.,Dewey, K. G. Educational intervention to modify bottle-feeding behaviors among formula-feeding mothers in the WIC program: impact on infant formula intake and weight gain. J Nutr Educ Behav.2008;40:244-50.	IV
305	Kavle, J. A.,Flax, V. L.,Abdelmegeid, A.,Salah, F.,Hafez, S.,Ramzy, M.,Hamed, D.,Saleh, G.,Galloway, R. Factors associated with early growth in Egyptian infants: implications for addressing the dual burden of malnutrition. Matern Child Nutr.2016;12:139-51.	Country
306	Kersting, M.,Alexy, U.,Sichert-Hellert, W.,Manz, F.,Schoch, G. Measured consumption of commercial infant food products in German infants: results from the DONALD study. Dortmund Nutritional and Anthropometrical Longitudinally Designed. J Pediatr Gastroenterol Nutr.1998;27:547-52.	DV
307	Kesaree, N.,Shivamurty, K. S.,Prakash, B. S.,Ramachandra,,Haridas, C. K. Feeding pattern of infants in Devangere. Indian J Pediatr.1981;48:281-4.	Design, IV
308	Khaldi, F.,Bouguerra, F. Feeding practices, growth, and morbidity in Tunisia. Pediatrics.2000;106:1275-6.	Design,

		Date
309	Khan, A. I.,Kabir, I.,Hawkesworth, S.,Ekström, E. C.,Arifeen, S.,Frongillo, E. A.,Persson, L. A. Early invitation to food and/or multiple micronutrient supplementation in pregnancy does not affect body composition in offspring at 54 months: Follow-up of the MINIMat randomised trial, Bangladesh. Maternal and Child Nutrition.2015;11:385-397.	IV, Age
310	Khan, M. U. Breastfeeding, growth and diarrhoea in rural Bangladesh children. Hum Nutr Clin Nutr.1984;38:113-9.	IV
311	Khan, M. Infant feeding practices in rural Meheran, Comilla, Bangladesh. Am J Clin Nutr.1980;33:2356-64.	IV, DV
312	Kholdi N,Zayeri F,Bagheban AA,Khodakarim S,Ramezankhani A. A study of growth failure and its related factors in children from 0 to 2 years in Tehran, Iran. Turk J Pediatr.2012;54:38-44.	Design
313	Kiefte-de Jong, J. C.,de Vries, J. H.,Escher, J. C.,Jaddoe, V. W.,Hofman, A.,Raat, H.,Moll, H. A. Role of dietary patterns, sedentary behaviour and overweight on the longitudinal development of childhood constipation: the Generation R study. Matern Child Nutr.2013;9:511-23.	DV
314	Kilaru, A.,Griffiths, P. L.,Ganapathy, S.,Ghosh, S. Community-based nutrition education for improving infant growth in rural Karnataka. Indian Pediatr.2005;42:425-32.	IV
315	King,S.,Prawitz,A. D.,Umoren,J.,O'Gorman,T. The impact of high diastase malted barley flour on weight and height of malnourished children in Panama. Journal of Hunger and Environmental Nutrition.2007;1:23-35.	Health status, Age
316	Klag, E. A.,McNamara, K.,Geraghty, S. R.,Keim, S. A. Associations Between Breast Milk Feeding, Introduction of Solid Foods, and Weight Gain in the First 12 Months of Life. Clin Pediatr (Phila).2015;54:1059-67.	Design
317	Kleinman, R. E. Complementary feeding and neuromuscular development. Pediatrics.2000;106:1279.	Design
318	Kolacek, S.,Kapetanovic, T.,Zimolo, A.,Luzar, V. Early determinants of cardiovascular risk factors in adults. A. Plasma lipids. Acta Paediatr.1993;82:699-704.	DV
319	Koletzko, B.,Dokoupil, K.,Reitmayr, S.,Weimert-Harendza, B.,Keller, E. Dietary fat intakes in infants and primary school children in Germany. Am J Clin Nutr.2000;72:1392s-1398s.	IV, DV
320	Koletzko, B.,von Kries, R.,Closa, R.,Escribano, J.,Scaglioni, S.,Giovannini, M.,Beyer, J.,Demmelmair, H.,Anton, B.,Gruszfeld, D.,Dobrzanska, A.,Sengier, A.,Langhendries, J. P.,Rolland Cachera, M. F.,Grote, V. Can infant feeding choices modulate later obesity risk?. Am J Clin Nutr.2009;89:1502s-1508s.	Design, IV
321	Koletzko, B.,von Kries, R.,Closa, R.,Escribano, J.,Scaglioni, S.,Giovannini, M.,Beyer, J.,Demmelmair, H.,Gruszfeld, D.,Dobrzanska, A.,Sengier, A.,Langhendries, J. P.,Rolland Cachera, M. F.,Grote, V. Lower protein in infant formula is associated with lower weight up to age 2 y: a randomized clinical trial. Am J Clin Nutr.2009;89:1836-45.	IV
322	Koletzko, B. Complementary foods and the development of food allergy. Pediatrics.2000;106:1285.	Design
323	Konstantynowicz, J.,Nguyen, T. V.,Kaczmarski, M.,Jamiolkowski, J.,Piotrowska-Jastrzebska, J.,Seeman, E. Fractures during growth: potential role of a milk-free diet. Osteoporos Int.2007;18:1601-7.	Age
324	Kramer, M. S.,Fombonne, E.,Matush, L.,Bogdanovich, N.,Dahhou, M.,Platt, R. W. Long-term behavioural consequences of infant feeding: the limits of observational studies. Paediatr Perinat Epidemiol.2011;25:500-6.	IV

325	Kramer, M. S.,Guo, T.,Platt, R. W.,Shapiro, S.,Collet, J. P.,Chalmers, B.,Hodnett, E.,Sevkovskaya, Z.,Dzikovich, I.,Vanilovich, I. Breastfeeding and infant growth: biology or bias?. Pediatrics.2002;110:343-7.	IV
326	Kramer, M. S.,Moodie, E. E.,Dahhou, M.,Platt, R. W. Breastfeeding and infant size: evidence of reverse causality. Am J Epidemiol.2011;173:978-83.	IV, DV
327	Kramer, M. S.,Moodie, E. E.,Platt, R. W. Infant feeding and growth: can we answer the causal question?. Epidemiology.2012;23:790-4.	Design
328	Kramer, M. S. Do breast-feeding and delayed introduction of solid foods protect against subsequent obesity?. J Pediatr.1981;98:883-7.	Design
329	Krebs,N. F. Culbertson D. L. Westcott J. L. Sherlock L. Hambidge K. M. Normal Iron Status in Breastfed Infants Consuming Meat as an Early Complementary Food. Pediatric Academic Societies Annual Meeting.2011.	Design
330	Krebs,N. F.,Hambidge,K. M.,Westcott,J. E.,Miller,L. V.,Sian,L.,Bell,M.,Grunwald,G. Exchangeable zinc pool size in infants is related to key variables of zinc homeostasis. J Nutr.2003;133:1498s-501s.	DV
331	Krebs,N. F.,Mazariegos,M.,Chomba,E.,Sami,N.,Pasha,O.,Tshefu,A.,Carlo,W. A.,Goldenberg,R. L.,Bose,C. L.,Wright,L. L.,Koso-Thomas,M.,Goco,N.,Kindem,M.,McClure,E. M.,Westcott,J.,Garces,A.,Lokangaka,A.,Manasyan,A.,Imenda,E.,Hartwell,T. D.,Hambidge,K. M. Randomized controlled trial of meat compared with multimicronutrient-fortified cereal in infants and toddlers with high stunting rates in diverse settings. Am J Clin Nutr.2012;96:840-7.	Country
332	Krebs,N. F.,Westcott,J. E.,Culbertson,D. L.,Sian,L.,Miller,L. V.,Hambidge,K. M. Comparison of complementary feeding strategies to meet zinc requirements of older breastfed infants. Am J Clin Nutr.2012;96:30-5.	DV
333	Kronborg, H.,Foverskov, E.,Vaeth, M. Predictors for early introduction of solid food among Danish mothers and infants: an observational study. BMC Pediatr.2014;14:243.	Design, DV
334	Kuklina, E. V.,Ramakrishnan, U.,Stein, A. D.,Barnhart, H. H.,Martorell, R. Growth and diet quality are associated with the attainment of walking in rural Guatemalan infants. J Nutr.2004;134:3296-300.	IV
335	Kumar, V.,Sharma, S.,Khanna, P.,Vanaja, K. Breast vs bottle feeding-impact on growth in urban infants. Indian J Pediatr.1981;48:271-5.	IV, DV
336	Kusin, J. A.,Kardjati, S.,van Steenbergen, W. M.,Renqvist, U. H. Nutritional transition during infancy in East Java, Indonesia: 2. A longitudinal study of growth in relation to the intake of breast milk and additional foods. Eur J Clin Nutr.1991;45:77-84.	IV
337	Kusin, J. A.,Kardjati, S.,van Steenbergen, W. Traditional infant feeding practices: right or wrong?. Soc Sci Med.1985;21:283-6.	IV, Country
338	Kwok, M. K.,Leung, G. M.,Lam, T. H.,Schooling, C. M. Breastfeeding, childhood milk consumption, and onset of puberty. Pediatrics.2012;130:e631-9.	DV
339	Laitinen,K.,Kalliomaki,M.,Poussa,T.,Lagstrom,H.,Isolauri,E. Evaluation of diet and growth in children with and without atopic eczema: follow-up study from birth to 4 years. Br J Nutr.2005;94:565-74.	IV, DV
340	Lampe,J. B.,Velez,N. The effect of prolonged bottle feeding on cow's milk intake and iron stores at 18 months of age. Clin Pediatr (Phila).1997;36:569-72.	Design
341	Lang B,Moynihan P. The weaning diet: promoting growth while safeguarding dental health. Quintessence Int.2006;37:632-6.	Design
342	Larnkjaer, A.,Hoppe, C.,Molgaard, C.,Michaelsen, K. F. The effects of whole milk and infant formula on growth and IGF-I in late infancy. Eur J Clin Nutr.2009;63:956-63.	IV

343	Lasky, P. A.,Eichelberger, K. M. Implications, considerations, and nursing interventions of obesity in neonatal and preschool patients. Nurs Clin North Am.1982;17:199-205.	Design
344	Lauzon-Guillain, Bd,Wijndaele, K.,Clark, M.,Acerini, C. L.,Hughes, I. A.,Dunger, D. B.,Wells, J. C.,Ong, K. K. Breastfeeding and infant temperament at age three months. PLoS One.2012;7:e29326.	Design, IV
345	Lawlor, D. A.,Riddoch, C. J.,Page, A. S.,Andersen, L. B.,Wedderkopp, N.,Harro, M.,Stansbie, D.,Smith, G. D. Infant feeding and components of the metabolic syndrome: findings from the European Youth Heart Study. Arch Dis Child.2005;90:582-8.	IV
346	Lee, K. Crying and behavior pattern in breast- and formula-fed infants. Early Hum Dev.2000;58:133-40.	Design, IV, DV
347	Leermakers, E. T.,Kiefte-de Jong, J. C.,Hofman, A.,Jaddoe, V. W.,Franco, O. H. Lutein intake at the age of 1 year and cardiometabolic health at the age of 6 years: the Generation R Study. Br J Nutr.2015;114:970-8.	IV
348	Legovic, M.,Ostric, L. The effects of feeding methods on the growth of the jaws in infants. ASDC J Dent Child.1991;58:253-5.	Design, IV, DV
349	Lei, D. L.,Chaves, S. P.,Paes, A. T.,Escuder, M. M.,Ribeiro, A. B.,Freire, R. D.,Lerner, B. R. Risk of linear growth retardation during the first two years of life: a new approach. Eur J Clin Nutr.1999;53:456-60.	IV
350	Leonard, W. R.,Dewalt, K. M.,Stansbury, J. P.,McCaston, M. K. Influence of dietary quality on the growth of highland and coastal Ecuadorian children. Am J Hum Biol.2000;12:825-837.	IV
351	Leroy, J. L.,Ruel, M.,Habicht, J. P.,Frongillo, E. A. Using height-for-age differences (HAD) instead of height-for-age z-scores (HAZ) for the meaningful measurement of population-level catch-up in linear growth in children less than 5 years of age. BMC Pediatr.2015;15:145.	IV
352	Leung, S. S.,Peng, C. X.,Xu, Y. Y.,Liu, K. M.,Quan, X. J.,Lui, S.,Davies, D. P. Comparative study of growth of Chinese infants: Hong Kong versus Guangzhou. J Trop Pediatr.1994;40:166-71.	IV, DV
353	Leung,S.,Davies,D. P. Infant feeding and growth of Chinese infants: birth to 2 years. Paediatr Perinat Epidemiol.1994;8:301-13.	IV, DV
354	Leventakou, V.,Roumeliotaki, T.,Koutra, K.,Vassilaki, M.,Mantzouranis, E.,Bitsios, P.,Kogevinas, M.,Chatzi, L. Breastfeeding duration and cognitive, language and motor development at 18 months of age: Rhea mother-child cohort in Crete, Greece. J Epidemiol Community Health.2015;69:232-9.	IV
355	Li, C.,Kaur, H.,Choi, W. S.,Huang, T. T.,Lee, R. E.,Ahluwalia, J. S. Additive interactions of maternal prepregnancy BMI and breast-feeding on childhood overweight. Obes Res.2005;13:362-71.	IV
356	Li, R.,Magadia, J.,Fein, S. B.,Grummer-Strawn, L. M. Risk of bottle-feeding for rapid weight gain during the first year of life. Arch Pediatr Adolesc Med.2012;166:431-6.	IV
357	Lin, S. L.,Leung, G. M.,Lam, T. H.,Schooling, C. M. Timing of solid food introduction and obesity: Hong Kong's "children of 1997" birth cohort. Pediatrics.2013;131:e1459-67.	Design
358	Lind,T.,Lonnerdal,B.,Persson,L. A.,Stenlund,H.,Tennefors,C.,Hernell,O. Effects of weaning cereals with different phytate contents on hemoglobin, iron stores, and serum zinc: a randomized intervention in infants from 6 to 12 mo of age. Am J Clin Nutr.2003;78:168-75.	DV
359	Livingstone V. Failure to thrive while breastfeeding. Breastfeed Med.2006;1:108-11.	Design

360	Lozoff, B.,De Andraca, I.,Castillo, M.,Smith, J. B.,Walter, T.,Pino, P. Behavioral and developmental effects of preventing iron-deficiency anemia in healthy full-term infants. Pediatrics.2003;112:846-54.	IV
361	Lucas, R.,Judge, M.,Sajdlowska, J.,Cong, X.,McGrath, J. M.,Brandon, D. Effect of Maternal Body Mass Index on Infant Breastfeeding Behaviors and Exclusive Direct Breastfeeding. J Obstet Gynecol Neonatal Nurs.2015;44:772-83.	DV
362	Lutter, C. K.,Mora, J. O.,Habicht, J. P.,Rasmussen, K. M.,Robson, D. S.,Herrera, M. G. Age-specific responsiveness of weight and length to nutritional supplementation. Am J Clin Nutr.1990;51:359-64.	IV
363	Lutter, C. K.,Mora, J. O.,Habicht, J. P.,Rasmussen, K. M.,Robson, D. S.,Sellers, S. G.,Super, C. M.,Herrera, M. G. Nutritional supplementation: effects on child stunting because of diarrhea. Am J Clin Nutr.1989;50:1-8.	IV
364	Lutter,C. K.,Rodriguez,A.,Fuenmayor,G.,Avila,L.,Sempertegui,F.,Escobar,J. Growth and micronutrient status in children receiving a fortified complementary food. J Nutr.2008;138:379-88.	IV
365	Luukkainen,P.,Salo,M. K.,Visakorpi,J. K.,Raiha,N. C.,Nikkari,T. Impact of solid food on plasma arachidonic and docosahexaenoic acid status of term infants at 8 months of age. J Pediatr Gastroenterol Nutr.1996;23:229-34.	IV, DV
366	MacCarthy, D. Psychological influences affecting growth. Health Visit.1980;53:470-6.	Design
367	Magarey, A.,Kavian, F.,Scott, J. A.,Markow, K.,Daniels, L. Feeding Mode of Australian Infants in the First 12 Months of Life: An Assessment against National Breastfeeding Indicators. J Hum Lact.2015.	DV
368	Maimaitiming, T.,Wang, Y. P. Feeding and intellectual development in infants and children from Uygur, Kazak, and Han nationality: A comparison of 454 cases. Journal of Clinical Rehabilitative Tissue Engineering Research.2007;11:10710-10712.	Design
369	Makrides,M.,Gould,J. F.,Gawlik,N. R.,Yelland,L. N.,Smithers,L. G.,Anderson,P. J.,Gibson,R. A. Four-year follow-up of children born to women in a randomized trial of prenatal DHA supplementation. Jama.2014;311:1802-4.	IV
370	Male,C.,Persson,L. A.,Freeman,V.,Guerra,A.,van't Hof,M. A.,Haschke,F. Prevalence of iron deficiency in 12-mo-old infants from 11 European areas and influence of dietary factors on iron status (Euro-Growth study). Acta Paediatr.2001;90:492-8.	DV
371	Mallan, K. M.,Fildes, A.,Magarey, A. M.,Daniels, L. A. The Relationship between Number of Fruits, Vegetables, and Noncore Foods Tried at Age 14 Months and Food Preferences, Dietary Intake Patterns, Fussy Eating Behavior, and Weight Status at Age 3.7 Years. J Acad Nutr Diet.2016;116:630-7.	DV
372	Mallard,S. R.,Houghton,L. A.,Filteau,S.,Mullen,A.,Nieuwelink,J.,Chisenga,M.,Siame,J.,Gibson,R. S. Dietary diversity at 6 months of age is associated with subsequent growth and mediates the effect of maternal education on infant growth in urban Zambia. J Nutr.2014;144:1818-25.	Country
373	Mamabolo, R. L.,Alberts, M.,Mbenyane, G. X.,Steyn, N. P.,Nthangeni, N. G.,Delemarre-Van De Waal, H. A.,Levitt, N. S. Feeding practices and growth of infants from birth to 12 months in the central region of the Limpopo Province of South Africa. Nutrition.2004;20:327-33.	IV, DV
374	Mamabolo,R. L.,Alberts,M.,Levitt,N. S.,Delemarre-van de Waal,H. A.,Steyn,N. P. Association between insulin-like growth factor-1, insulin-like growth factor-binding protein-1 and leptin levels with nutritional status in 1-3-year-old children, residing in the central region of Limpopo Province, South Africa. Br J Nutr.2007;98:762-9.	IV
375	Mamun, A. A.,Lawlor, D. A.,O'Callaghan, M. J.,Williams, G. M.,Najman, J. M. Family and early life factors associated with changes in overweight status between ages 5 and 14 years: findings from the Mater University Study of Pregnancy and its outcomes. Int J Obes (Lond).2005;29:475-82.	IV

376	Manjrekar, C.,Vishalakshi, M. P.,Begum, N. J.,Padma, G. N. Breast feeding ability of undernourished mothers and physical development of their infants during 0-1 year. Indian Pediatr.1985;22:801-9.	IV, DV
377	Marques,R. C.,Dorea,J. G.,Bernardi,J. V.,Bastos,W. R.,Malm,O. Maternal fish consumption in the nutrition transition of the Amazon Basin: growth of exclusively breastfed infants during the first 5 years. Ann Hum Biol.2008;35:363-77.	IV
378	Marquis, G. S.,Habicht, J. P.,Lanata, C. F.,Black, R. E.,Rasmussen, K. M. Association of breastfeeding and stunting in Peruvian toddlers: an example of reverse causality. Int J Epidemiol.1997;26:349-56.	Design
379	Marquis, G. S.,Habicht, J. P.,Lanata, C. F.,Black, R. E.,Rasmussen, K. M. Breast milk or animal-product foods improve linear growth of Peruvian toddlers consuming marginal diets. Am J Clin Nutr.1997;66:1102-9.	Design
380	Martin, R. M.,McCarthy, A.,Smith, G. D.,Davies, D. P.,Ben-Shlomo, Y. Infant nutrition and blood pressure in early adulthood: the Barry Caerphilly Growth study. Am J Clin Nutr.2003;77:1489-97.	IV, DV
381	Martin, R. M.,Smith, G. D.,Mangtani, P.,Frankel, S.,Gunnell, D. Association between breast feeding and growth: the Boyd-Orr cohort study. Arch Dis Child Fetal Neonatal Ed.2002;87:F193-201.	IV
382	Martines, J. C.,Habicht, J. P.,Ashworth, A.,Kirkwood, B. R. Weaning in southern Brazil: is there a "weanling's dilemma"?. J Nutr.1994;124:1189-98.	IV
383	Matsuzaki,M.,Kuper,H.,Kulkarni,B.,Radhakrishna,K. V.,Viljakainen,H.,Taylor,A. E.,Sullivan,R.,Bowen,L.,Tobias,J. H.,Ploubidis,G. B.,Wells,J. C.,Prabhakaran,D.,Smith,G. D.,Ebrahim,S.,Ben-Shlomo,Y.,Kinra,S. Life-course determinants of bone mass in young adults from a transitional rural community in India: The Andhra Pradesh Children and Parents Study (APCAPS). American Journal of Clinical Nutrition.2014;99:1450-1459.	Design, IV, Age
384	May, A. L.,Dietz, W. H. The Feeding Infants and Toddlers Study 2008: opportunities to assess parental, cultural, and environmental influences on dietary behaviors and obesity prevention among young children. J Am Diet Assoc.2010;110:S11-5.	Design
385	Mazariegos,M.,Hambidge,K. M.,Westcott,J. E.,Solomons,N. W.,Raboy,V.,Das,A.,Goco,N.,Kindem,M.,Wright,L. L.,Krebs,N. F. Neither a zinc supplement nor phytate-reduced maize nor their combination enhance growth of 6- to 12-month-old Guatemalan infants. J Nutr.2010;140:1041-8.	Country
386	McGuire, E. Breastfeeding and high maternal body mass index. Breastfeed Rev.2013;21:7-14.	Design
387	McNeill, G. Birth weight, feeding practices and weight-for-age of Punjabi children in the UK and in the rural Punjab. Hum Nutr Clin Nutr.1985;39:69-72.	Design
388	Mehta KC,Specker BL,Bartholmey S,Giddens J,Ho ML. Trial on timing of introduction to solids and food type on infant growth. Pediatrics.1998;102:569-73.	IV
389	Mei, H.,Guo, B.,Yin, B.,Liang, X.,Adair, L.,Thompson, A.,Zhang, J. Interactive Effects of Early Exclusive Breastfeeding and Pre-Pregnancy Maternal Weight Status on Young Children's BMI - A Chinese Birth Cohort. PLoS One.2015;10:e0144357.	IV
390	Meldrum,S. J.,D'Vaz,N.,Simmer,K.,Dunstan,J. A.,Hird,K.,Prescott,S. L. Effects of high-dose fish oil supplementation during early infancy on neurodevelopment and language: a randomised controlled trial. Br J Nutr.2012;108:1443-54.	IV
391	Melnik, B. Growth and puberty in German children: is there still a positive secular trend? Consumption of milk as a vital factor in growth development..Bettina Gohlke, Woelfle JF. volume 23/2009. Deutsches Aerzteblatt International.2009;106:656-656.	Design
392	Mennella, J. A.,Castor, S. M. Sensitive period in flavor learning: effects of duration of exposure to formula flavors on food likes during infancy. Clin Nutr.2012;31:1022-5.	DV

393	Merten, S.,Dratva, J.,Ackermann-Liebrich, U. Do baby-friendly hospitals influence breastfeeding duration on a national level?. Pediatrics.2005;116:e702-8.	Design, IV
394	Michaelsen, K. F.,Johansen, J. S.,Samuelson, G.,Price, P. A.,Christiansen, C. Serum bone gamma-carboxyglutamic acid protein in a longitudinal study of infants: lower values in formula-fed infants. Pediatr Res.1992;31:401-5.	IV
395	Michaelsen, K. F. Are there negative effects of an excessive protein intake?. Pediatrics.2000;106:1293.	Design
396	Michaelsen,K. F.,Milman,N.,Samuelson,G. A longitudinal study of iron status in healthy Danish infants: effects of early iron status, growth velocity and dietary factors. Acta Paediatr.1995;84:1035-44.	IV, DV
397	Michaelsen,K. F. Cows' milk in complementary feeding. Pediatrics.2000;106:1302-3.	Design
398	Michaelsen,K. F. Nutrition and growth during infancy. The Copenhagen Cohort Study. Acta Paediatr Suppl.1997;420:1-36.	Design, IV
399	Michels, K. B.,Willett, W. C.,Graubard, B. I.,Vaidya, R. L.,Cantwell, M. M.,Sansbury, L. B.,Forman, M. R. A longitudinal study of infant feeding and obesity throughout life course. Int J Obes (Lond).2007;31:1078-85.	IV
400	Mihrshahi, S.,Battistutta, D.,Magarey, A.,Daniels, L. A. Determinants of rapid weight gain during infancy: baseline results from the NOURISH randomised controlled trial. BMC Pediatr.2011;11:99.	Design
401	Millar, L.,Kremer, P.,de Silva-Sanigorski, A.,McCabe, M. P.,Mavoa, H.,Moodie, M.,Utter, J.,Bell, C.,Malakellis, M.,Mathews, L.,Roberts, G.,Robertson, N.,Swinburn, B. A. Reduction in overweight and obesity from a 3-year community-based intervention in Australia: the 'It's Your Move!' project. Obes Rev.2011;12 Suppl 2:20-8.	IV, Age
402	Mimouni-Bloch, A.,Kachevanskaya, A.,Mimouni, F. B.,Shuper, A.,Raveh, E.,Linder, N. Breastfeeding may protect from developing attention-deficit/hyperactivity disorder. Breastfeed Med.2013;8:363-7.	IV
403	Mittal, S.,Gupta, M. C. Evaluation of a supplementary feeding programme through take home system. J Trop Pediatr.1980;26:50-3.	IV
404	Miura T,Fukuda M,Mizuno M,Ohte N. Need for public awareness regarding low birth weight and bottle feeding. Hypertens Res.2016.	Design
405	Molgaard, C.,Larnkjaer, A.,Mark, A. B.,Michaelsen, K. F. Are early growth and nutrition related to bone health in adolescence? The Copenhagen Cohort Study of infant nutrition and growth. Am J Clin Nutr.2011;94:1865s-1869s.	IV
406	Moller, L. M.,de Hoog, M. L.,van Eijsden, M.,Gemke, R. J.,Vrijkotte, T. G. Infant nutrition in relation to eating behaviour and fruit and vegetable intake at age 5 years. Br J Nutr.2013;109:564-71.	DV
407	Monterrosa EC,Frongillo EA,Neufeld LM,Egan KA,Ramakrishnan U,Rasmussen KM. Maternal pre-pregnancy body mass index is not associated with infant and young child feeding in low-income Mexican children 1-24 months old. Matern Child Nutr.2015;11:215-28.	DV
408	Monterrosa,E. C.,Frongillo,E. A.,Vasquez-Garibay,E. M.,Romero-Velarde,E.,Casey,L. M.,Willows,N. D. Predominant breast-feeding from birth to six months is associated with fewer gastrointestinal infections and increased risk for iron deficiency among infants. J Nutr.2008;138:1499-504.	IV
409	Monti G,Viola S,Baro C,Cresi F,Tovo PA,Moro G,Ferrero MP,Conti A,Bertino E. Tolerability of donkey's milk in 92 highly-problematic cow's milk allergic children. J Biol Regul Homeost Agents.2012;26:75-82.	IV
410	Moore,S. E.,Prentice,A. M.,Wagatsuma,Y.,Fulford,A. J.,Collinson,A. C.,Raqib,R.,Vahter,M.,Persson,L. A.,Arifeen,S. E. Early-life	IV, DV

	nutritional and environmental determinants of thymic size in infants born in rural Bangladesh. Acta Paediatr.2009;98:1168-75.	
411	Moreno M. Early infant feeding and obesity risk. JAMA Pediatr.2014;168:1084.	Design
412	Morgan JB,Mumford PM. A follow-up study of nutrition and anthropometry in pre-school children. Proc Nutr Soc.1980;39:5a.	Design
413	Morgan, J. B.,Lucas, A.,Fewtrell, M. S. Does weaning influence growth and health up to 18 months?. Archives of Disease in Childhood: Education and Practice Edition.2004;89:728-733.	Design
414	Morley,R.,Abbott,R.,Fairweather-Tait,S.,MacFadyen,U.,Stephenson,T.,Lucas,A. Iron fortified follow on formula from 9 to 18 months improves iron status but not development or growth: a randomised trial. Arch Dis Child.1999;81:247-52.	IV
415	Morrow-Tlucak, M.,Haude, R. H.,Ernhart, C. B. Breastfeeding and cognitive development in the first 2 years of life. Soc Sci Med.1988;26:635-9.	IV
416	Morton,R. E.,Nysenbaum,A.,Price,K. Iron status in the first year of life. J Pediatr Gastroenterol Nutr.1988;7:707-12.	DV
417	Mumford, P.,Morgan, J. B. A longitudinal study of nutrition and growth of infants initially on the upper and lower centile for weight and age. Int J Obes.1982;6:335-41.	IV, DV
418	Musaad, S. M.,Donovan, S. M.,Fiese, B. H. Parental perception of child weight in the first two years-of-life: a potential link between infant feeding and preschoolers' diet. Appetite.2015;91:90-100.	Design, DV
419	Nagahara, K.,Dobashi, K.,Itabashi, K. Feeding choice has a gender-associated effect on infant growth. Pediatr Int.2013;55:481-7.	IV
420	Nakao, R. M. Effects of an education program on the health and illness profile of rural breast-fed babies. Philipp J Nurs.1988;58:12-8.	IV
421	Narese, F.,Puccio, G.,Mazzucco, W.,Falzone, A.,Venturella, V.,Narese, D.,Capra, E. Earlier appearance of the ossification center of the femoral head in breast-fed versus formula-fed infants. Nutrition.2011;27:1108-11.	Design, IV
422	Nauta,A. J.,Garssen,J. Nutritional programming of immune defense against infections in early life. Nutricia Research, Utrecht, Netherlands.2014;12:113-126.	Design
423	Newman,J. E.,Garces,A.,Mazariegos,M.,Michael Hambidge,K.,Manasyan,A.,Tshefu,A.,Lokangaka,A.,Sami,N.,Carlo,W. A.,Bose,C. L.,Pasha,O.,Goco,N.,Chomba,E.,Goldenberg,R. L.,Wright,L. L.,Koso-Thomas,M.,Krebs,N. F. Theory-driven process evaluation of a complementary feeding trial in four countries. Health Educ Res.2014;29:297-305.	Design, DV
424	Ng, S. C.,Chong, Y. S.,Rauff, M.,Myo, Z. M.,Nurfarah, C.,Deurenberg, P. R. The influence of breast feeding compared to formula feeding on infant adiposity. Ann Acad Med Singapore.2004;33:S75.	Design, IV
425	Nguyen, N. D.,Allen, J. R.,Peat, J. K.,Schofield, W. N.,Nossar, V.,Eisenbruch, M.,Gaskin, K. J. Growth and feeding practices of Vietnamese infants in Australia. Eur J Clin Nutr.2004;58:356-62.	IV, DV
426	Nielsen GA,Thomsen BL,Michaelsen KF. Influence of breastfeeding and complementary food on growth between 5 and 10 months. Acta Paediatr.1998;87:911-7.	Design
427	Niinikoski, H.,Lagstrom, H.,Jokinen, E.,Siltala, M.,Ronnemaa, T.,Viikari, J.,Raitakari, O. T.,Jula, A.,Marniemi, J.,Nanto-Salonen, K.,Simell, O. Impact of repeated dietary counseling between infancy and 14 years of age on dietary intakes and serum lipids and lipoproteins: the STRIP study. Circulation.2007;116:1032-40.	IV

428	Northstone, K.,Emmett, P.,Nethersole, F. The effect of age of introduction to lumpy solids on foods eaten and reported feeding difficulties at 6 and 15 months. J Hum Nutr Diet.2001;14:43-54.	DV
429	Novotny, R.,Coleman, P.,Tenorio, L.,Davison, N.,Camacho, T.,Ramirez, V.,Vijayadeva, V.,Untalan, P.,Tudela, M. D. Breastfeeding is associated with lower body mass index among children of the Commonwealth of the Northern Mariana Islands. J Am Diet Assoc.2007;107:1743-6.	Design, IV
430	Ntouva, A.,Rogers, I.,MacAdam, A.,Emmett, P. Weaning practices and iron status of exclusively breast fed infants. Journal of Human Nutrition & Dietetics.2011;24:297-298 2p.	Design
431	Nwaru BI,Takkinen HM,Niemela O,Kaila M,Erkkola M,Ahonen S,Haapala AM,Kenward MG,Pekkanen J,Lahesmaa R,Kere J,Simell O,Veijola R,Ilonen J,Hyoty H,Knip M,Virtanen SM. Timing of infant feeding in relation to childhood asthma and allergic diseases. J Allergy Clin Immunol.2013;131:78-86.	DV
432	Obatolu, V. A. Growth pattern of infants fed with a mixture of extruded malted maize and cowpea. Nutrition.2003;19:174-8.	Country
433	Oddy, W. H.,Kendall, G. E.,Blair, E.,De Klerk, N. H.,Stanley, F. J.,Landau, L. I.,Silburn, S.,Zubrick, S. Breast feeding and cognitive development in childhood: a prospective birth cohort study. Paediatr Perinat Epidemiol.2003;17:81-90.	IV
434	Oddy, W. H.,Robinson, M.,Kendall, G. E.,Li, J.,Zubrick, S. R.,Stanley, F. J. Breastfeeding and early child development: a prospective cohort study. Acta Paediatr.2011;100:992-9.	IV
435	Oddy, W. H.,Sherriff, J. L. Breastfeeding, body mass index, asthma and atopy in children. Asia Pac J Public Health.2003;15 Suppl:S15-7.	IV
436	O'Donovan,S. M.,O'B Hourihane J,Murray,D. M.,Kenny,L. C.,Khashan,A. S.,Chaoimh,C. N.,Irvine,A. D.,Kiely,M. Neonatal adiposity increases the risk of atopic dermatitis during the first year of life. J Allergy Clin Immunol.2015.	DV
437	Oelofse,A.,Van Raaij,J. M.,Benade,A. J.,Dhansay,M. A.,Tolboom,J. J.,Hautvast,J. G. The effect of a micronutrient-fortified complementary food on micronutrient status, growth and development of 6- to 12-month-old disadvantaged urban South African infants. Int J Food Sci Nutr.2003;54:399-407.	Country
438	Ong, K. K.,Emmett, P. M.,Noble, S.,Ness, A.,Dunger, D. B. Dietary energy intake at the age of 4 months predicts postnatal weight gain and childhood body mass index. Pediatrics.2006;117:e503-8.	IV
439	Ong, K. K.,Preece, M. A.,Emmett, P. M.,Ahmed, M. L.,Dunger, D. B. Size at birth and early childhood growth in relation to maternal smoking, parity and infant breast-feeding: longitudinal birth cohort study and analysis. Pediatr Res.2002;52:863-7.	IV
440	Onyango, A. W.,Borghi, E.,de Onis, M.,Casanovas Mdel, C.,Garza, C. Complementary feeding and attained linear growth among 6-23-month-old children. Public Health Nutr.2014;17:1975-83.	Design
441	Ou, X.,Andres, A.,Cleves, M. A.,Pivik, R. T.,Snow, J. H.,Ding, Z.,Badger, T. M. Sex-specific association between infant diet and white matter integrity in 8-y-old children. Pediatr Res.2014;76:535-43.	IV
442	Ounsted, M. K.,Moar, V. A.,Scott, A. Large-for-dates babies at the age of four years: health, handicap and developmental status. Early Hum Dev.1983;9:9-19.	IV
443	Pachucki MA. Food pattern analysis over time: unhealthful eating trajectories predict obesity. Int J Obes (Lond).2012;36:686-94.	Age
444	Parry, J. E.,Ip, D. K.,Chau, P. Y.,Wu, K. M.,Tarrant, M. Predictors and consequences of in-hospital formula supplementation for healthy breastfeeding newborns. J Hum Lact.2013;29:527-36.	IV, DV

445	Parsons, T. J.,Power, C.,Manor, O. Infant feeding and obesity through the lifecourse. Arch Dis Child.2003;88:793-4.	IV
446	Patsourou, A.,Konstantinides, T.,Mantadakis, E.,Tsalkidis, A.,Zarras, C.,Balaska, A.,Simopoulos, K.,Chatzimichael, A. Growth of exclusively breastfed and self-weaned children of Greece aged 0-36 months. Breastfeed Med.2012;7:521-5.	IV
447	Paul IM,Savage JS,Anzman SL,Beiler JS,Marini ME,Stokes JL,Birch LL. Preventing obesity during infancy: a pilot study. Obesity (Silver Spring).2011;19:353-61.	IV
448	Paul, A.,Whitehead, R. Infant feeding: the weighting game. Community Outlook.1986:11-7.	Design
449	Paul, S. P.,Smith, B. A.,Taylor, T. M.,Walker, J. Take with a grain of salt. Clin Chem.2013;59:348-51.	Design
450	Peat,J. K.,Mihrshahi,S.,Kemp,A. S.,Marks,G. B.,Tovey,E. R.,Webb,K.,Mellis,C. M.,Leeder,S. R. Three-year outcomes of dietary fatty acid modification and house dust mite reduction in the Childhood Asthma Prevention Study. J Allergy Clin Immunol.2004;114:807-13.	IV, DV
451	Penny,M. E.,Creed-Kanashiro,H. M.,Robert,R. C.,Narro,M. R.,Caulfield,L. E.,Black,R. E. Effectiveness of an educational intervention delivered through the health services to improve nutrition in young children: a cluster-randomised controlled trial. Lancet.2005;365:1863-72.	IV
452	Penrod,J. C.,Anderson,K.,Acosta,P. B. Impact on iron status of introducing cow's milk in the second six months of life. J Pediatr Gastroenterol Nutr.1990;10:462-7.	IV, DV
453	Perez-Escamilla, R.,Cohen, R. J.,Brown, K. H.,Rivera, L. L.,Canahuati, J.,Dewey, K. G. Maternal anthropometric status and lactation performance in a low-income Honduran population: evidence for the role of infants. Am J Clin Nutr.1995;61:528-34.	IV, DV
454	Persson LA. Infant feeding and growth--a longitudinal study in three Swedish communities. Ann Hum Biol.1985;12:41-52.	IV
455	Persson,L. A.,Lundstrom,M.,Lonnerdal,B.,Hernell,O. Are weaning foods causing impaired iron and zinc status in 1-year-old Swedish infants? A cohort study. Acta Paediatr.1998;87:618-22.	IV, DV
456	Peters,R. L.,Allen,K. J.,Dharmage,S. C.,Lodge,C. J.,Koplin,J. J.,Ponsonby,A. L.,Wake,M.,Lowe,A. J.,Tang,M. L.,Matheson,M. C.,Gurrin,L. C. Differential factors associated with challenge-proven food allergy phenotypes in a population cohort of infants: a latent class analysis. Clin Exp Allergy.2015;45:953-63.	DV
457	Pfluger M,Winkler C,Hummel S,Ziegler AG. Early infant diet in children at high risk for type 1 diabetes. Horm Metab Res.2010;42:143-8.	IV
458	Pham,V. P.,Nguyen,V. H.,Salvignol,B.,Treche,S.,Wieringa,F. T.,Dijkhuizen,M. A.,Nguyen,C. K.,Pham,D. T.,Schwartz,H.,Berger,J. A six-month intervention with two different types of micronutrient-fortified complementary foods had distinct short- and long-term effects on linear and ponderal growth of Vietnamese infants. J Nutr.2012;142:1735-40.	Country
459	Phu,P. V.,Hoan,N. V.,Salvignol,B.,Treche,S.,Wieringa,F. T.,Khan,N. C.,Tuong,P. D.,Berger,J. Complementary foods fortified with micronutrients prevent iron deficiency and anemia in Vietnamese infants. J Nutr.2010;140:2241-7.	DV
460	Piemontese, P.,Gianni, M. L.,Braegger, C. P.,Chirico, G.,Gruber, C.,Riedler, J.,Arslanoglu, S.,van Stuijvenberg, M.,Boehm, G.,Jelinek, J.,Roggero, P. Tolerance and safety evaluation in a large cohort of healthy infants fed an innovative prebiotic formula: a randomized controlled trial. PLoS One.2011;6:e28010.	IV
461	Pimpin, L.,Jebb, S.,Johnson, L.,Wardle, J.,Ambrosini, G. L. Dietary protein intake is associated with body mass index and weight up to 5 y of age in a prospective cohort of twins. Am J Clin Nutr.2016;103:389-97.	IV

462	Pivik, R. T.,Andres, A.,Badger, T. M. Effects of diet on early stage cortical perception and discrimination of syllables differing in voice-onset time: a longitudinal ERP study in 3 and 6 month old infants. Brain Lang.2012;120:27-41.	IV
463	Pivik, R. T.,Dykman, R. A.,Jing, H.,Gilchrist, J. M.,Badger, T. M. The influence of infant diet on early developmental changes in processing human voice speech stimuli: ERP variations in breast and milk formula-fed infants at 3 and 6 months after birth. Dev Neuropsychol.2007;31:279-335.	IV
464	Piwoz, E. G.,Black, R. E.,Lopez de Romana, G.,Creed de Kanashiro, H.,Brown, K. H. The relationship between infants' preceding appetite, illness, and growth performance and mothers' subsequent feeding practice decisions. Soc Sci Med.1994;39:851-60.	IV, DV
465	Piwoz, E. G.,Creed de Kanashiro, H.,Lopez de Romana, G.,Black, R. E.,Brown, K. H. Within- and between-individual variation in energy intakes by low-income Peruvian infants. Eur J Clin Nutr.1994;48:333-40.	IV, DV
466	Piwoz,E. G.,Lopez de Romana,G.,Creed de Kanashiro,H.,Black,R. E.,Brown,K. H. Indicators for monitoring the growth of peruvian infants: weight and length gain vs attained weight and length. Am J Public Health.1994;84:1132-8.	IV
467	Plagemann, A.,Harder, T.,Kohlhoff, R.,Fahrenkrog, S.,Rodekamp, E.,Franke, K.,Dudenhausen, J. W. Impact of early neonatal breast-feeding on psychomotor and neuropsychological development in children of diabetic mothers. Diabetes Care.2005;28:573-8.	IV
468	Plonka, K. A.,Pukallus, M. L.,Barnett, A.,Holcombe, T. F.,Walsh, L. J.,Seow, W. K. A controlled, longitudinal study of home visits compared to telephone contacts to prevent early childhood caries. Int J Paediatr Dent.2013;23:23-31.	DV
469	Poh,Bee Koon,Ng,Boon Koon,Siti Haslinda,Mohd Din,Nik Shanita,Safii,Wong,Jyh Eiin,Budin,Siti Balkis,Ruzita,Abd Talib,Ng,Lai Oon,Khouw,Ilse,Norimah,A. Karim. Nutritional status and dietary intakes of children aged 6 months to 12 years: findings of the Nutrition Survey of Malaysian Children (SEANUTS Malaysia). British Journal of Nutrition.2013;110:S21-35 1p.	Design, IV
470	Polańska, K.,Muszyński, P.,Sobala, W.,Dziewirska, E.,Merecz-Kot, D.,Hanke, W. Maternal lifestyle during pregnancy and child psychomotor development - Polish Mother and Child Cohort study. Early Human Development.2015;91:317-325.	IV
471	Pollitt, E.,Gorman, K. S.,Engle, P. L.,Rivera, J. A.,Martorell, R. Nutrition in early life and the fulfillment of intellectual potential. J Nutr.1995;125:1111s-1118s.	Design, IV
472	Pollitt, E.,Watkins, W. E.,Husaini, M. A. Three-month nutritional supplementation in Indonesian infants and toddlers benefits memory function 8 y later. Am J Clin Nutr.1997;66:1357-63.	Country
473	Potur, A. H.,Kalmaz, N. An investigation into feeding errors of 0-4-month-old infants. J Trop Pediatr.1995;41:120-2.	Design, IV,DV
474	Potur, A. H.,Kalmaz, N. An investigation into feeding errors of 0-4-month-old infants. J Trop Pediatr.1996;42:173-5.	Design, IV,DV
475	Prentice P,Koulman A,Matthews L,Acerini CL,Ong KK,Dunger DB. Lipidomic analyses, breast- and formula-feeding, and growth in infants. J Pediatr.2015;166:276-81.e6.	IV
476	Pridham, K. F. Infant feeding and anticipatory care: supporting the adaptation of parents to their new babies. Matern Child Nurs J.1981;10:111-26.	Design
477	Priego, T.,Sanchez, J.,Pico, C.,Ahrens, W.,Bammann, K.,De Henauw, S.,Fraterman, A.,Iacoviello, L.,Lissner, L.,Molnar, D.,Moreno, L. A.,Siani, A.,Tornaritis, M.,Veidebaum, T.,Palou, A. Influence of breastfeeding on blood-cell transcript-based biomarkers of health in children. Pediatr Obes.2014;9:463-70.	IV
478	Prodam, F.,Roccio, M.,Trovato, L.,Ricotti, R.,Moia, S.,Giglione, E.,Petri, A.,Walker, G. E.,Bellone, S.,Bona, G. Adiponectin oligomers are similarly distributed in adequate-for-gestational-age obese children irrespective of feeding in their first year. Pediatr	IV, DV

	Res.2015;77:808-13.	
479	Puri, R.,Chawla, P.,Sharma, M.,Pershad, D. Impact of an on-going supplementary feeding programme on the mental abilities of children. Indian J Pediatr.1984;51:653-7.	IV
480	Purwestri, R. C.,Scherbaum, V.,Inayati, D. A.,Wirawan, N. N.,Suryantan, J.,Bloem, M. A.,Pangaribuan, R. V.,Stuetz, W.,Hoffmann, V.,Qaim, M.,Biesalski, H. K.,Bellows, A. C. Supplementary feeding with locally-produced Ready-to-Use Food (RUF) for mildly wasted children on Nias Island, Indonesia: comparison of daily and weekly program outcomes. Asia Pac J Clin Nutr.2012;21:374-9.	Health status, IV
481	Qureshi, B.,Morgan, J. B.,Kimer, A. C.,Donaldson, D.,Dickerson, J. W. Feeding practices and birth weights of infants in Southall, Middlesex. J R Soc Health.1988;108:77-80.	IV, DV
482	Radhakrishna,K. V.,Hemalatha,R.,Geddam,J. J.,Kumar,P. A.,Balakrishna,N.,Shatrugna,V. Effectiveness of zinc supplementation to full term normal infants: a community based double blind, randomized, controlled, clinical trial. PLoS One.2013;8:e61486.	IV
483	Ramokolo, V.,Lombard, C.,Chhagan, M.,Engebretsen, I. M.,Doherty, T.,Goga, A. E.,Fadnes, L. T.,Zembe, W.,Jackson, D. J.,Van den Broeck, J. Effects of early feeding on growth velocity and overweight/obesity in a cohort of HIV unexposed South African infants and children. Int Breastfeed J.2015;10:14.	IV
484	Rao,S.,Rajpathak,V. Breastfeeding and weaning practices in relation to nutritional status of infants. Indian Pediatr.1992;29:1533-9.	IV, DV
485	Rapley, G. Talking about weaning. Community Pract.2011;84:40-1.	Design
486	Rask-Nissila,L.,Jokinen,E.,Terho,P.,Tammi,A.,Hakanen,M.,Ronnemaa,T.,Viikari,J.,Seppanen,R.,Valimaki,I.,Helenius,H.,Simell,O. Effects of diet on the neurologic development of children at 5 years of age: the STRIP project. J Pediatr.2002;140:328-33.	IV
487	Ravelli, A. C.,van der Meulen, J. H.,Osmond, C.,Barker, D. J.,Bleker, O. P. Infant feeding and adult glucose tolerance, lipid profile, blood pressure, and obesity. Arch Dis Child.2000;82:248-52.	IV
488	Reifsnider, E. Reversing growth deficiency in children: the effect of a community-based intervention. J Pediatr Health Care.1998;12:305-12.	Health status, IV
489	Requejo,A. M.,Navia,B.,Ortega,R. M.,Lopez-Sobaler,A. M.,Quintas,E.,Gaspar,M. J.,Osorio,O. The age at which meat is first included in the diet affects the incidence of iron deficiency and ferropenic anaemia in a group of pre-school children from Madrid. Int J Vitam Nutr Res.1999;69:127-31.	Design
490	Richards, M.,Wadsworth, M.,Rahimi-Foroushani, A.,Hardy, R.,Kuh, D.,Paul, A. Infant nutrition and cognitive development in the first offspring of a national UK birth cohort. Dev Med Child Neurol.1998;40:163-7.	IV
491	Rifas-Shiman SL,Sherry B,Scanlon K,Birch LL,Gillman MW,Taveras EM. Does maternal feeding restriction lead to childhood obesity in a prospective cohort study?. Arch Dis Child.2011;96:265-9.	IV
492	Rios-Castillo, I.,Cerezo, S.,Corvalan, C.,Martinez, M.,Kain, J. Risk factors during the prenatal period and the first year of life associated with overweight in 7-year-old low-income Chilean children. Matern Child Nutr.2015;11:595-605.	Design
493	Rivera,J. A.,Habicht,J. P. Effect of supplementary feeding on the prevention of mild-to-moderate wasting in conditions of endemic malnutrition in Guatemala. Bull World Health Organ.2002;80:926-32.	IV
494	Roberts, D. W. Growth of breast fed and bottle fed infants. N Z Med J.1980;92:45-6.	IV
495	Robinson, S. M.,Simmonds, S. J.,Jameson, K. A.,Syddall, H. E.,Dennison, E. M.,Cooper, C.,Sayer, A. A. Muscle strength in older	IV

	community-dwelling men is related to type of milk feeding in infancy. J Gerontol A Biol Sci Med Sci.2012;67:990-6.	
496	Robinson, S.,Ntani, G.,Simmonds, S.,Syddall, H.,Dennison, E.,Sayer, A. A.,Barker, D.,Cooper, C. Type of milk feeding in infancy and health behaviours in adult life: findings from the Hertfordshire Cohort Study. Br J Nutr.2013;109:1114-22.	IV, DV
497	Rogan, W. J.,Gladen, B. C. Breast-feeding and cognitive development. Early Hum Dev.1993;31:181-93.	IV
498	Rolland-Cachera,M. F.,Maillot,M.,Deheeger,M.,Souberbielle,J. C.,Peneau,S.,Hercberg,S. Association of nutrition in early life with body fat and serum leptin at adult age. Int J Obes (Lond).2013;37:1116-22.	IV
499	Rosado,J. L.,Lopez,P.,Garcia,O. P.,Alatorre,J.,Alvarado,C. Effectiveness of the nutritional supplement used in the Mexican Oportunidades programme on growth, anaemia, morbidity and cognitive development in children aged 12-24 months. Public Health Nutr.2011;14:931-7.	IV
500	Routi, T.,Ronnemaa, T.,Lapinleimu, H.,Salo, P.,Viikari, J.,Leino, A.,Valimaki, I.,Jokinen, E.,Simell, O. Effect of weaning on serum lipoprotein(a) concentration: the STRIP baby study. Pediatr Res.1995;38:522-7.	IV, DV
501	Rowland, M. G. The "why" and "when" of introducing food to infants: growth in young breast-fed infants and some nutritional implications. Am J Clin Nutr.1985;41:459-63.	Design
502	Roy, S. K.,Fuchs, G. J.,Mahmud, Z.,Ara, G.,Islam, S.,Shafique, S.,Akter, S. S.,Chakraborty, B. Intensive nutrition education with or without supplementary feeding improves the nutritional status of moderately-malnourished children in Bangladesh. J Health Popul Nutr.2005;23:320-30.	Health status
503	Rudnicka, A. R.,Owen, C. G.,Richards, M.,Wadsworth, M. E.,Strachan, D. P. Effect of breastfeeding and sociodemographic factors on visual outcome in childhood and adolescence. Am J Clin Nutr.2008;87:1392-9.	IV
504	Rudy,C. A. Vegetarian diets for children. Pediatr Nurs.1984;10:329-33.	Design
505	Ruel, M. T.,Rivera, J.,Habicht, J. P.,Martorell, R. Differential response to early nutrition supplementation: long-term effects on height at adolescence. Int J Epidemiol.1995;24:404-12.	IV, Date
506	Russell, C. G.,Taki, S.,Azadi, L.,Campbell, K. J.,Laws, R.,Elliott, R.,Denney-Wilson, E. A qualitative study of the infant feeding beliefs and behaviours of mothers with low educational attainment. BMC Pediatr.2016;16:69.	DV
507	Ryan, A. S.,Gussler, J. D. Biocultural factors affecting infant feeding and growth. Med Anthropol.1985;9:93-5.	Design
508	Rzehak, P.,Sausenthaler, S.,Koletzko, S.,Reinhardt, D.,von Berg, A.,Kramer, U.,Berdel, D.,Bollrath, C.,Grubl, A.,Bauer, C. P.,Wichmann, H. E.,Heinrich, J. Long-term effects of hydrolyzed protein infant formulas on growth--extended follow-up to 10 y of age: results from the German Infant Nutritional Intervention (GINI) study. Am J Clin Nutr.2011;94:1803s-1807s.	IV
509	Saco-Pollitt, C.,Triana, N.,Harahap, H.,Husaini, M.,Jahari, A. B.,Pollitt, E. The eco-cultural context of the undernourished children in a study on the effects of early supplementary feeding in Indonesia. Eur J Clin Nutr.2000;54 Suppl 2:S11-5.	Design, Health status
510	Sacrey, L. A.,Karl, J. M.,Whishaw, I. Q. Development of rotational movements, hand shaping, and accuracy in advance and withdrawal for the reach-to-eat movement in human infants aged 6-12 months. Infant Behav Dev.2012;35:543-60.	IV, DV
511	Saha, K. K.,Frongillo, E. A.,Alam, D. S.,Arifeen, S. E.,Persson, L. A.,Rasmussen, K. M. Appropriate infant feeding practices result in better growth of infants and young children in rural Bangladesh. Am J Clin Nutr.2008;87:1852-9.	IV

512	Samuel, T. M.,Thomas, T.,Bhat, S.,Kurpad, A. V. Are infants born in baby-friendly hospitals being exclusively breastfed until 6 months of age?. Eur J Clin Nutr.2012;66:459-65.	IV
513	Saner G,Dagoglu T,Uzkan I,Neyzi O. Promotion of breastfeeding in the postpartum mother. Turk J Pediatr.1985;27:63-8.	IV
514	Sanger, R. G.,Bystrom, E. B. Breast feeding: does it affect oral facial growth?. Dent Hyg (Chic).1982;56:44-7.	Design
515	Santos, I. S.,Matijasevich, A.,Assuncao, M. C.,Valle, N. C.,Horta, B. L.,Goncalves, H. D.,Gigante, D. P.,Martines, J. C.,Pelto, G.,Victora, C. G. Promotion of Weight Gain in Early Childhood Does Not Increase Metabolic Risk in Adolescents: A 15-Year Follow-Up of a Cluster-Randomized Controlled Trial. J Nutr.2015;145:2749-55.	IV
516	Santos,I.,Victora,C. G.,Martines,J.,Goncalves,H.,Gigante,D. P.,Valle,N. J.,Pelto,G. Nutrition counseling increases weight gain among Brazilian children. J Nutr.2001;131:2866-73.	IV
517	Satter, Ma,Jabin, Sa,Abedin, N.,Mf, Mf,Parvin, R.,Dhali, M.,Amin, Mz. Development and Evaluation of Weaning Foods Using Locally Available Nutritious Fruits in Bangladesh. Malaysian Journal of Nutrition.2014;20:83-92.	Design, IV, DV
518	Savino, F.,Maccario, S.,Cresi, F.,Grasso, G.,Oggero, R.,Silvestro, L.,Mussa, G. C. Bioimpedance vector analysis in breastfed and formula-fed infants in the first six months of life. Adv Exp Med Biol.2004;554:501-4.	Design, IV
519	Savino, F.,Sorrenti, M.,Benetti, S.,Lupica, M. M.,Liguori, S. A.,Oggero, R. Resistin and leptin in breast milk and infants in early life. Early Hum Dev.2012;88:779-82.	Design, IV
520	Sawley, L. Infant feeding. Nursing (Lond).1989;3:18-23.	Design
521	Sazawal,S.,Dhingra,P.,Dhingra,U.,Gupta,S.,Iyengar,V.,Menon,V. P.,Sarkar,A.,Black,R. E. Compliance with home-based fortification strategies for delivery of iron and zinc: its effect on haematological and growth markers among 6-24 months old children in north India. J Health Popul Nutr.2014;32:217-26.	Country
522	Scaglioni, S.,Agostoni, C.,Notaris, R. D.,Radaelli, G.,Radice, N.,Valenti, M.,Giovannini, M.,Riva, E. Early macronutrient intake and overweight at five years of age. Int J Obes Relat Metab Disord.2000;24:777-81.	IV
523	Scheiwe, A.,Hardy, R.,Watt, R. G. Four-year follow-up of a randomized controlled trial of a social support intervention on infant feeding practices. Matern Child Nutr.2010;6:328-37.	IV
524	Schmalz, M.,Boos, K.,Schmalz, G.,Huntington, M. K. Failure to thrive. J Fam Pract.2009;58:539-44.	Design
525	Schmidt,M. K.,Muslimatun,S.,West,C. E.,Schultink,W.,Gross,R.,Hautvast,J. G. Nutritional status and linear growth of Indonesian infants in west java are determined more by prenatal environment than by postnatal factors. J Nutr.2002;132:2202-7.	Country
526	Schroeder, D. G.,Martorell, R.,Rivera, J. A.,Ruel, M. T.,Habicht, J. P. Age differences in the impact of nutritional supplementation on growth. J Nutr.1995;125:1051s-1059s.	IV
527	Schroeder, N.,Rushovich, B.,Bartlett, E.,Sharma, S.,Gittelsohn, J.,Caballero, B. Early Obesity Prevention: A Randomized Trial of a Practice-Based Intervention in 0-24-Month Infants. J Obes.2015;2015:795859.	IV
528	Schwartz, R.,Vigo, A.,de Oliveira, L. D.,Justo Giugliani, E. R. The Effect of a Pro-Breastfeeding and Healthy Complementary Feeding Intervention Targeting Adolescent Mothers and Grandmothers on Growth and Prevalence of Overweight of Preschool Children. PLoS One.2015;10:e0131884.	IV
529	Scott, J. A.,Binns, C. W.,Graham, K. I.,Oddy, W. H. Predictors of the early introduction of solid foods in infants: results of a cohort	DV

	study. BMC Pediatr.2009;9:60.	
530	Scott, J. A.,Dashti, M.,Al-Sughayer, M.,Edwards, C. A. Timing and Determinants of the Introduction of Complementary Foods in Kuwait: Results of a Prospective Cohort Study. J Hum Lact.2015;31:467-73.	DV
531	Scully, T. Obesity. Nature.2014;508:S49.	Design
532	Seal, N.,Broome, M. E. Prepregnancy Body Mass Index and Feeding Practices in Relation to Infants' Growth. J Nurse Pract.2013;9.	Design
533	Seksaria,S. A.,Sheth,M. K. Mass media as a means to bring about behavioral changes in infant and young child feeding practices amongst tribal mothers of Chikhli taluka, Gujarat. Indian Journal of Public Health Research and Development.2015;6:113-118.	Design, IV
534	Sellen, D. W.,Thompson, A. L.,Hruschka, D. J.,Stein, A. D.,Martorell, R. Early determinants of non-exclusive breastfeeding among Guatemalan infants. Adv Exp Med Biol.2004;554:299-301.	IV, DV
535	Senarath, U.,Godakandage, S. S.,Jayawickrama, H.,Siriwardena, I.,Dibley, M. J. Determinants of inappropriate complementary feeding practices in young children in Sri Lanka: secondary data analysis of Demographic and Health Survey 2006-2007. Matern Child Nutr.2012;8 Suppl 1:60-77.	Design,DV
536	Sethi, V.,Kashyap, S.,Seth, V. Effect of nutrition education of mothers on infant feeding practices. Indian J Pediatr.2003;70:463-6.	IV
537	Sezer,R. G.,Aydemir,G.,Akcan,A. B.,Bayoglu,D. S.,Guran,T.,Bozaykut,A. Effect of breastfeeding on serum zinc levels and growth in healthy infants. Breastfeed Med.2013;8:159-63.	Design
538	Shaternikov,V. A.,Fateeva,E. M.,Chernikov,M. N. Protein nutrition in early infancy and subsequent periods: its effect on further development. Bibl Nutr Dieta.1982:95-111.	Design
539	Shehadeh, N.,Weitzer-Kish, H.,Shamir, R.,Shihab, S.,Weiss, R. Impact of early postnatal weight gain and feeding patterns on body mass index in adolescence. J Pediatr Endocrinol Metab.2008;21:9-15.	IV
540	Shi,L.,Zhang,J.,Wang,Y.,Caulfield,L. E.,Guyer,B. Effectiveness of an educational intervention on complementary feeding practices and growth in rural China: a cluster randomised controlled trial. Public Health Nutr.2010;13:556-65.	IV
541	Shim, J. E.,Kim, J.,Mathai, R. A. Associations of infant feeding practices and picky eating behaviors of preschool children. J Am Diet Assoc.2011;111:1363-8.	DV
542	Simell, O.,Niinikoski, H.,Viikari, J.,Rask-Nissila, L.,Tammi, A.,Ronnemaa, T. Cardiovascular disease risk factors in young children in the STRIP baby project. Special Turku coronary Risk factor Intervention Project for children. Ann Med.1999;31 Suppl 1:55-61.	IV
543	Simondon, K. B.,Gartner, A.,Berger, J.,Cornu, A.,Massamba, J. P.,San Miguel, J. L.,Ly, C.,Missotte, I.,Simondon, F.,Traissac, P.,Delpeuch, F.,Maire, B. Effect of early, short-term supplementation on weight and linear growth of 4-7-mo-old infants in developing countries: a four-country randomized trial. Am J Clin Nutr.1996;64:537-45.	IV,Country
544	Singhal A,Cole TJ,Fewtrell M,Kennedy K,Stephenson T,Elias-Jones A,Lucas A. Promotion of faster weight gain in infants born small for gestational age: is there an adverse effect on later blood pressure?. Circulation.2007;115:213-20.	Health status, IV
545	Singhal, A.,Lucas, A. Early origins of cardiovascular disease: is there a unifying hypothesis?. Lancet.2004;363:1642-5.	Design
546	Skau,J. K.,Touch,B.,Chhoun,C.,Chea,M.,Unni,U. S.,Makurat,J.,Filteau,S.,Wieringa,F. T.,Dijkhuizen,M. A.,Ritz,C.,Wells,J. C.,Berger,J.,Friis,H.,Michaelsen,K. F.,Roos,N. Effects of animal source food and micronutrient fortification in complementary food products on body composition, iron status, and linear growth: a randomized trial in Cambodia. Am J Clin Nutr.2015;101:742-51.	IV

547	Skledar, M. T.,Milosevic, M. Breastfeeding and time of complementary food introduction as predictors of obesity in children. Cent Eur J Public Health.2015;23:26-31.	Design
548	Sloan, S.,Gildea, A.,Stewart, M.,Sneddon, H.,Iwaniec, D. Early weaning is related to weight and rate of weight gain in infancy. Child Care Health Dev.2008;34:59-64.	Design
549	Snijders, B. E.,Thijs, C.,van Ree, R.,van den Brandt, P. A. Age at first introduction of cow milk products and other food products in relation to infant atopic manifestations in the first 2 years of life: the KOALA Birth Cohort Study. Pediatrics.2008;122:e115-22.	DV
550	Soto-Ramirez, N.,Karmaus, W.,Zhang, H.,Davis, S.,Agarwal, S.,Albergottie, A. Modes of infant feeding and the occurrence of coughing/wheezing in the first year of life. J Hum Lact.2013;29:71-80.	IV, DV
551	Sparks, J. W. Fetal growth and diet. Mead Johnson Symp Perinat Dev Med.1984:21-7.	Design
552	Specker BL,Beck A,Kalkwarf H,Ho M. Randomized trial of varying mineral intake on total body bone mineral accretion during the first year of life. Pediatrics.1997;99:E12.	IV
553	Spence,A. C.,Campbell,K. J.,Crawford,D. A.,McNaughton,S. A.,Hesketh,K. D. Mediators of improved child diet quality following a health promotion intervention: the Melbourne InFANT Program. Int J Behav Nutr Phys Act.2014;11:137.	IV, DV
554	Sreedhara, M. S.,Banapurmath, C. R. A study of nutritional status of infants in relation to their complementary feeding practices. Current Pediatric Research.2014;18:39-41.	Design
555	Stahl, M. D.,Guida, D. A. Slow weight gain in the breast-fed infant: management options. Pediatr Nurs.1984;10:117-20, 164.	Design
556	Stang,J. Improving the eating patterns of infants and toddlers. J Am Diet Assoc.2006;106:S7-9.	Design
557	Stifter, C. A.,Anzman-Frasca, S.,Birch, L. L.,Voegtline, K. Parent use of food to soothe infant/toddler distress and child weight status. An exploratory study. Appetite.2011;57:693-9.	Design, IV
558	Strbak, V.,Skultetyova, M.,Hromadova, M.,Randuskova, A.,Macho, L. Late effects of breast-feeding and early weaning: seven-year prospective study in children. Endocr Regul.1991;25:53-7.	IV
559	Stuff, J. E.,Garza, C.,Boutte, C.,Fraley, J. K.,Smith, E. O.,Klein, E. R.,Nichols, B. L. Sources of variance in milk and caloric intakes in breast-fed infants: implications for lactation study design and interpretation. Am J Clin Nutr.1986;43:361-6.	Design, IV
560	Stuff, J. E.,Nichols, B. L. Nutrient intake and growth performance of older infants fed human milk. J Pediatr.1989;115:959-68.	DV
561	Stunkard, A. J.,Berkowitz, R. I.,Schoeller, D.,Maislin, G.,Stallings, V. A. Predictors of body size in the first 2 y of life: a high-risk study of human obesity. Int J Obes Relat Metab Disord.2004;28:503-13.	IV
562	Stunkard, A. J.,Berkowitz, R. I.,Stallings, V. A.,Schoeller, D. A. Energy intake, not energy output, is a determinant of body size in infants. Am J Clin Nutr.1999;69:524-30.	IV
563	Super, C. M.,Herrera, M. G.,Mora, J. O. Long-term effects of food supplementation and psychosocial intervention on the physical growth of Colombian infants at risk of malnutrition. Child Dev.1990;61:29-49.	IV
564	Svahn,J. C.,Feldl,F.,Raiha,N. C.,Koletzko,B.,Axelsson,I. E. Different quantities and quality of fat in milk products given to young children: effects on long chain polyunsaturated fatty acids and trans fatty acids in plasma. Acta Paediatr.2002;91:20-9.	DV
565	Taitz, L. S.,Lukmanji, Z. Alterations in feeding patterns and rates of weight gain in South Yorkshire infants, 1971-1977. Hum Biol.1981;53:313-20.	IV, Date

566	Taitz, L. Feeding children in the first year of life. Midwife Health Visitor & Community Nurse.1990;26:81-84.	Design
567	Tann, S. P.,Wheeler, E. F. Food intakes and growth of young Chinese children in London. Community Med.1980;2:20-4.	IV, DV
568	Tantracheewathorn,S.,Lohajaroensub,S. Incidence and risk factors of iron deficiency anemia in term infants. J Med Assoc Thai.2005;88:45-51.	IV, DV
569	Tanzer F,Gumuser C. A study of the growth of 200 newborn babies for a period of 6 months according to the type of nutrition. Ann Trop Paediatr.1989;9:54-8.	IV
570	Tarrant, M.,Fong, D. Y.,Wu, K. M.,Lee, I. L.,Wong, E. M.,Sham, A.,Lam, C.,Dodgson, J. E. Breastfeeding and weaning practices among Hong Kong mothers: a prospective study. BMC Pregnancy Childbirth.2010;10:27.	DV
571	Taveras EM,Blackburn K,Gillman MW,Haines J,McDonald J,Price S,Oken E. First steps for mommy and me: a pilot intervention to improve nutrition and physical activity behaviors of postpartum mothers and their infants. Matern Child Health J.2011;15:1217-27.	IV
572	Tawia, S. Breastfeeding, brain structure and function, cognitive development and educational attainment. Breastfeed Rev.2013;21:15-20.	Design
573	Tawia, S. Childhood obesity and being breastfed. Breastfeed Rev.2013;21:42-8.	Design
574	Taylor,A.,Redworth,E. W.,Morgan,J. B. Influence of diet on iron, copper, and zinc status in children under 24 months of age. Biol Trace Elem Res.2004;97:197-214.	DV
575	Thakur, R.,Singh, M. G.,Chaudhary, S.,Manuja, N. Effect of mode of delivery and feeding practices on acquisition of oral Streptococcus mutans in infants. Int J Paediatr Dent.2012;22:197-202.	DV
576	Theron, M.,Amissah, A.,Kleynhans, I. C.,Albertse, E.,MacIntyre, U. E. Inadequate dietary intake is not the cause of stunting amongst young children living in an informal settlement in Gauteng and rural Limpopo Province in South Africa: the NutriGro study. Public Health Nutr.2007;10:379-89.	Design
577	Thomson, J. L.,Tussing-Humphreys, L. M.,Goodman, M. H. Delta Healthy Sprouts: a randomized comparative effectiveness trial to promote maternal weight control and reduce childhood obesity in the Mississippi Delta. Contemp Clin Trials.2014;38:82-91.	Design, IV
578	Thorisdottir, B.,Gunnarsdottir, I.,Thorisdottir, A. V.,Palsson, G. I.,Halldorsson, T. I.,Thorsdottir, I. Nutrient intake in infancy and body mass index at six years in two population-based cohorts recruited before and after revision of infant dietary recommendations. Ann Nutr Metab.2013;63:145-51.	IV
579	Thorsdottir, I.,Gunnarsdottir, I.,Palsson, G. I. Birth weight, growth and feeding in infancy: relation to serum lipid concentration in 12-month-old infants. Eur J Clin Nutr.2003;57:1479-85.	IV, DV
580	Timby, N.,Domellof, E.,Hernell, O.,Lonnerdal, B.,Domellof, M. Neurodevelopment, nutrition, and growth until 12 mo of age in infants fed a low-energy, low-protein formula supplemented with bovine milk fat globule membranes: a randomized controlled trial. Am J Clin Nutr.2014;99:860-8.	IV
581	Townsend, E.,Pitchford, N. J. Baby knows best? The impact of weaning style on food preferences and body mass index in early childhood in a case-controlled sample. BMJ Open.2012;2:e000298.	IV
582	Tripathy, R.,Das, R. N.,Das, M. M.,Parija, A. C. Growth in the first year in children following IAP Policy on Infant Feeding. Indian Pediatr.2000;37:1051-9.	IV

583	Tulldahl, J.,Pettersson, K.,Andersson, S. W.,Hulthen, L. Mode of infant feeding and achieved growth in adolescence: early feeding patterns in relation to growth and body composition in adolescence. Obes Res.1999;7:431-7.	Design
584	Umer, A.,Hamilton, C.,Britton, C. M.,Mullett, M. D.,John, C.,Neal, W.,Lilly, C. L. Association between Breastfeeding and Childhood Obesity: Analysis of a Linked Longitudinal Study of Rural Appalachian Fifth-Grade Children. Child Obes.2015;11:449-55.	IV
585	Unni, J. C.,Richard, J. Growth and morbidity of breast-fed and artificially-fed infants in urban south Indian families. J Trop Pediatr.1988;34:179-81.	IV
586	Vail, B.,Prentice, P.,Dunger, D. B.,Hughes, I. A.,Acerini, C. L.,Ong, K. K. Age at Weaning and Infant Growth: Primary Analysis and Systematic Review. Journal of Pediatrics.2015;167:317-324.e1.	Design
587	Valman, H. B. The first year of life: feeding and feeding problems. Br Med J.1980;280:457-60.	Design
588	van der Willik, E. M.,Vrijkotte, T. G.,Altenburg, T. M.,Gademan, M. G.,Kist-van Holthe, J. Exclusively breastfed overweight infants are at the same risk of childhood overweight as formula fed overweight infants. Arch Dis Child.2015;100:932-7.	IV
589	van Dijk, C. E.,Innis, S. M. Growth-curve standards and the assessment of early excess weight gain in infancy. Pediatrics.2009;123:102-8.	IV, DV
590	van Eijsden, M.,Meijers, C. M.,Jansen, J. E.,de Kroon, M. L.,Vrijkotte, T. G. Cultural variation in early feeding pattern and maternal perceptions of infant growth. Br J Nutr.2015;114:481-8.	DV
591	van Rheenen,P. F.,de Moor,L. T.,Eschbach,S.,Brabin,B. J. A cohort study of haemoglobin and zinc protoporphyrin levels in term Zambian infants: effects of iron stores at birth, complementary food and placental malaria. Eur J Clin Nutr.2008;62:1379-87.	Country
592	van t Hof Msc, M. A. The influence of breastfeeding and complementary foods on growth until three years of age in the Euro-Growth Study. Pediatrics.2000;106:1281a-1281.	Design
593	Vazir,S.,Engle,P.,Balakrishna,N.,Griffiths,P. L.,Johnson,S. L.,Creed-Kanashiro,H.,Fernandez Rao,S.,Shroff,M. R.,Bentley,M. E. Cluster-randomized trial on complementary and responsive feeding education to caregivers found improved dietary intake, growth and development among rural Indian toddlers. Matern Child Nutr.2013;9:99-117.	IV
594	Veena SR,Krishnaveni GV,Srinivasan K,Wills AK,Hill JC,Kurpad AV,Muthayya S,Karat SC,Nalinakshi M,Fall CH. Infant feeding practice and childhood cognitive performance in South India. Arch Dis Child.2010;95:347-54.	Country
595	Veena, S. R.,Krishnaveni, G. V.,Wills, A. K.,Hill, J. C.,Karat, S. C.,Fall, C. H. Glucose tolerance and insulin resistance in Indian children: relationship to infant feeding pattern. Diabetologia.2011;54:2533-7.	Country
596	Vehapoglu, A.,Yazici, M.,Demir, A. D.,Turkmen, S.,Nursoy, M.,Ozkaya, E. Early infant feeding practice and childhood obesity: the relation of breast-feeding and timing of solid food introduction with childhood obesity. J Pediatr Endocrinol Metab.2014;27:1181-7.	Design
597	Venancio, S. I.,Saldiva, S. R.,Mondini, L.,Levy, R. B.,Escuder, M. M. Early interruption of exclusive breastfeeding and associated factors, state of Sao Paulo, Brazil. J Hum Lact.2008;24:168-74.	Design, DV
598	Verd S,Barriuso L,Gich I,Gutierrez A,Nadal-Amat J,Carreras E. Risk of early breastfeeding cessation among symmetrical, small for gestational age infants. Ann Hum Biol.2013;40:146-51.	Health status, DV
599	Victora, C. G.,Matijasevich, A.,Santos, I. S.,Barros, A. J.,Horta, B. L.,Barros, F. C. Breastfeeding and feeding patterns in three birth cohorts in Southern Brazil: trends and differentials. Cad Saude Publica.2008;24 Suppl 3:S409-16.	IV, DV
600	Victora,C. G.,Vaughan,J. P.,Martines,J. C.,Barcelos,L. B. Is prolonged breast-feeding associated with malnutrition?. Am J Clin Nutr.1984;39:307-14.	IV

601	Villalpando, S. Feeding mode, infections, and anthropometric status in early childhood. Pediatrics.2000;106:1282-3.	Design
602	Virtanen, S. M.,Laara, E.,Hypponen, E.,Reijonen, H.,Rasanen, L.,Aro, A.,Knip, M.,Ilonen, J.,Akerblom, H. K. Cow's milk consumption, HLA-DQB1 genotype, and type 1 diabetes: a nested case-control study of siblings of children with diabetes. Childhood diabetes in Finland study group. Diabetes.2000;49:912-7.	DV
603	Virtanen, S. M.,Rasanen, L.,Ylonen, K.,Aro, A.,Clayton, D.,Langholz, B.,Pitkaniemi, J.,Savilahti, E.,Lounamaa, R.,Tuomilehto, J.,et al.,. Early introduction of dairy products associated with increased risk of IDDM in Finnish children. The Childhood in Diabetes in Finland Study Group. Diabetes.1993;42:1786-90.	DV
604	Vobecky,J. S.,Vobecky,J.,Shapcott,D.,Demers,P. P. Nutrient intake patterns and nutritional status with regard to relative weight in early infancy. Am J Clin Nutr.1983;38:730-8.	IV
605	Wandel, M.,Fagerli, R. Aa,Olsen, P. T.,Borch-Iohnsen, B.,Ek, J. Iron status and weaning practices among Norwegian and immigrant infants. Nutrition Research.1996;16:251-265.	Design
606	Wang RJ,Trehan I,LaGrone LN,Weisz AJ,Thakwalakwa CM,Maleta KM,Manary MJ. Investigation of food acceptability and feeding practices for lipid nutrient supplements and blended flours used to treat moderate malnutrition. J Nutr Educ Behav.2013;45:258-63.	Health status, Country
607	Watt, R. G.,Tull, K. I.,Hardy, R.,Wiggins, M.,Kelly, Y.,Molloy, B.,Dowler, E.,Apps, J.,McGlone, P. Effectiveness of a social support intervention on infant feeding practices: randomised controlled trial. J Epidemiol Community Health.2009;63:156-62.	IV, DV
608	Weber, M.,Grote, V.,Closa-Monasterolo, R.,Escribano, J.,Langhendries, J. P.,Dain, E.,Giovannini, M.,Verduci, E.,Gruszfeld, D.,Socha, P.,Koletzko, B. Lower protein content in infant formula reduces BMI and obesity risk at school age: follow-up of a randomized trial. Am J Clin Nutr.2014;99:1041-51.	IV
609	Weijs, P. J.,Kool, L. M.,van Baar, N. M.,van der Zee, S. C. High beverage sugar as well as high animal protein intake at infancy may increase overweight risk at 8 years: a prospective longitudinal pilot study. Nutr J.2011;10:95.	IV
610	Wen, L. M.,Baur, L. A.,Simpson, J. M.,Xu, H.,Hayes, A. J.,Hardy, L. L.,Williams, M.,Rissel, C. Sustainability of Effects of an Early Childhood Obesity Prevention Trial Over Time: A Further 3-Year Follow-up of the Healthy Beginnings Trial. JAMA Pediatr.2015;169:543-51.	IV
611	West, C. E.,Hernell, O.,Andersson, Y.,Sjostedt, M.,Hammarstrom, M. L. Probiotic effects on T-cell maturation in infants during weaning. Clin Exp Allergy.2012;42:540-9.	IV, DV
612	Westphal, R.,Phillips, G.,Irwig, L. M. Infant care and feeding in an urban black population. S Afr Med J.1981;60:778-81.	DV, Date
613	Weyermann, M.,Rothenbacher, D.,Brenner, H. Duration of breastfeeding and risk of overweight in childhood: a prospective birth cohort study from Germany. Int J Obes (Lond).2006;30:1281-7.	IV
614	Wharf,S. G.,Fox,T. E.,Fairweather-Tait,S. J.,Cook,J. D. Factors affecting iron stores in infants 4-18 months of age. Eur J Clin Nutr.1997;51:504-9.	Design
615	Whitehead, R. G.,Paul, A. A.,Ahmed, E. A. Weaning practices in the United Kingdom and variations in anthropometric development. Acta Paediatr Scand Suppl.1986;323:14-23.	Design, IV
616	Whitehead, R. G.,Paul, A. A. Infant growth and human milk requirements. A fresh approach. Lancet.1981;2:161-3.	IV
617	Whitten, C. F.,Stewart, R. A. The effect of dietary sodium in infancy on blood pressure and related factors. Studies of infants fed	IV

	salted and unsalted diets for five months at eight months and eight years of age. Acta Paediatr Scand Suppl.1980;279:1-17.	
618	Wiberger, M.,Eiben, G.,Lissner, L.,Mehlig, K.,Papoutsou, S.,Hunsberger, M. Children consuming milk cereal drink are at increased risk for overweight: The IDEFICS Sweden study, on behalf of the IDEFICS Consortium. Scand J Public Health.2014;42:518-24.	Design
619	Wigg, N. R.,Tong, S.,McMichael, A. J.,Baghurst, P. A.,Vimpani, G.,Roberts, R. Does breastfeeding at six months predict cognitive development?. Aust N Z J Public Health.1998;22:232-6.	IV
620	Wijga,A.,Vyas,U.,Vyas,A.,Sharma,V.,Pandya,N.,Nabarro,D. Feeding, illness and nutritional status of young children in rural Gujarat. Hum Nutr Clin Nutr.1983;37:255-69.	Design, IV
621	Williams, D. M.,Martin, R. M.,Davey Smith, G.,Alberti, K. G.,Ben-Shlomo, Y.,McCarthy, A. Associations of infant nutrition with insulin resistance measures in early adulthood: evidence from the Barry-Caerphilly Growth (BCG) study. PLoS One.2012;7:e34161.	IV, DV
622	Williams, J.,Wolff, A.,Daly, A.,MacDonald, A.,Aukett, A.,Booth, I. W. Iron supplemented formula milk related to reduction in psychomotor decline in infants from inner city areas: randomised study. Bmj.1999;318:693-7.	IV
623	Winick, M. The role of early nutrition in subsequent development and optimal future health. Bull N Y Acad Med.1989;65:1020-5.	Design
624	Winkelstein,M. L. Overfeeding in infancy: the early introduction of solid foods. Pediatr Nurs.1984;10:205-8, 236.	Design
625	Wölfle, J. Growth and puberty in German children: is there still a positive secular trend? In reply..Consumption of milk as a vital factor in growth development. Melnik B, Dtsch Arzetebl 2009, volume 206. Deutsches Aerzteblatt International.2009;106:656-656.	Design
626	Wright, C. M.,Parkinson, K. N.,Drewett, R. F. Why are babies weaned early? Data from a prospective population based cohort study. Arch Dis Child.2004;89:813-6.	DV
627	Wright, C. M.,Parkinson, K.,Scott, J. Breast-feeding in a UK urban context: who breast-feeds, for how long and does it matter?. Public Health Nutr.2006;9:686-91.	IV
628	Wright, M. J.,Bentley, M. E.,Mendez, M. A.,Adair, L. S. The interactive association of dietary diversity scores and breast-feeding status with weight and length in Filipino infants aged 6-24 months. Public Health Nutr.2015;18:1762-73.	Country
629	Yew, K. S.,Webber, B.,Hodges, J.,Carter, N. J. Clinical inquiries: are there any known health risks to early introduction of solids to an infant's diet?. J Fam Pract.2009;58:219-20.	Design
630	Young RJ,Antonson DL,Ferguson PW,Murray ND,Merkel K,Moore TE. Neonatal and infant feeding: effect on bone density at 4 years. J Pediatr Gastroenterol Nutr.2005;41:88-93.	Design
631	Yousafzai, A. K.,Rasheed, M. A.,Rizvi, A.,Armstrong, R.,Bhutta, Z. A. Effect of integrated responsive stimulation and nutrition interventions in the Lady Health Worker programme in Pakistan on child development, growth, and health outcomes: a cluster-randomised factorial effectiveness trial. Lancet.2014;384:1282-93.	Country
632	Ystrom, E. Breastfeeding cessation and symptoms of anxiety and depression: a longitudinal cohort study. BMC Pregnancy Childbirth.2012;12:36.	IV, DV
633	Zadik Z,Borondukov E,Zung A,Reifen R. Adult height and weight of breast-fed and bottle-fed Israeli infants. J Pediatr Gastroenterol Nutr.2003;37:462-7.	IV
634	Zaman, S.,Jalil, F.,Saleemi, M. A.,Mellander, L.,Ashraf, R. N.,Hanson, L. A. Changes in feeding patterns affect growth in children 0-24 months of age living in socioeconomically different areas of Lahore, Pakistan. Adv Exp Med Biol.2002;503:49-56.	Country

635	Zaman,S.,Ashraf,R. N.,Martines,J. Training in complementary feeding counselling of healthcare workers and its influence on maternal behaviours and child growth: a cluster-randomized controlled trial in Lahore, Pakistan. J Health Popul Nutr.2008;26:210-22.	IV, Country
636	Zavaleta,N.,Kvistgaard,A. S.,Graverholt,G.,Respicio,G.,Guija,H.,Valencia,N.,Lonnerdal,B. Efficacy of an MFGM-enriched complementary food in diarrhea, anemia, and micronutrient status in infants. J Pediatr Gastroenterol Nutr.2011;53:561-8.	DV
637	Zhang,J.,Shi,L.,Chen,D. F.,Wang,J.,Wang,Y. Effectiveness of an educational intervention to improve child feeding practices and growth in rural China: updated results at 18 months of age. Matern Child Nutr.2013;9:118-29.	IV
638	Zhu, B.,Zhang, J.,Qiu, L.,Binns, C.,Shao, J.,Zhao, Y.,Zhao, Z. Breastfeeding Rates and Growth Charts--the Zhejiang Infant Feeding Trial. Int J Environ Res Public Health.2015;12:7337-47.	IV, DV
639	Ziegler, E. E.,Fields, D. A.,Chernausek, S. D.,Steenhout, P.,Grathwohl, D.,Jeter, J. M.,Nelson, S. E.,Haschke, F. Adequacy of Infant Formula With Protein Content of 1.6 g/100 kcal for Infants Between 3 and 12 Months. J Pediatr Gastroenterol Nutr.2015;61:596-603.	IV
640	Ziegler,E. E.,Fomon,S. J.,Nelson,S. E.,Rebouche,C. J.,Edwards,B. B.,Rogers,R. R.,Lehman,L. J. Cow milk feeding in infancy: further observations on blood loss from the gastrointestinal tract. J Pediatr.1990;116:11-8.	IV, DV
641	Zive, M. M.,McKay, H.,Frank-Spohrer, G. C.,Broyles, S. L.,Nelson, J. A.,Nader, P. R. Infant-feeding practices and adiposity in 4-y-old Anglo- and Mexican-Americans. Am J Clin Nutr.1992;55:1104-8.	Design
642	Zutavern, A.,Brockow, I.,Schaaf, B.,von Berg, A.,Diez, U.,Borte, M.,Kraemer, U.,Herbarth, O.,Behrendt, H.,Wichmann, H. E.,Heinrich, J. Timing of solid food introduction in relation to eczema, asthma, allergic rhinitis, and food and inhalant sensitization at the age of 6 years: results from the prospective birth cohort study LISA. Pediatrics.2008;121:e44-52.	DV

[1] Abbreviations: DV- Dependent variable; IV- Independent variable/exposure/intervention

APPENDIX

The table below describes study and sample characteristics from the included articles, organized by study design then alphabetical order of the first author's last name.

Supplemental Table S4. Description of the evidence examining timing of introduction of CFB and growth, size, and body composition.

Randomized controlled trials		
Bainbridge, 1996 Randomized Controlled Trial; U.S. **Sample Size**: Baseline N: 41 Analytic N: 41 Attrition: 0% Power Analysis/Sample Size Calculation: NR **Sex:** ~49% Female **Race/Ethnicity**: 73.2% White, 26.8% Black **Background Diet**: All FF with same formula from birth to 16wk	**Intervention/Exposure:** Age of CFB introduction: CFB at 16wk vs. EFF until 26wk CFB: Rice cereal from 16-26wk; Both groups were FF and the EFF group continued exclusive use of formula from 16-26wk **Age:** 4mo **Assessment Methods**: Food record, 3d **Outcomes:** Weight; Length; Body composition (Adiposity) **Age:** 16wk, 26wk, 16-26wk **Assessment Methods**: Body composition: Skinfold thickness: calipers; abdominal, MUAC, triceps, mid-thigh, chest, subscapular, suprailiac Weight, length: NR, digital scale and length board HC: NR **Confounders accounted for:** N/A Other: At baseline, reported NSD in sex, race/ethnicity, birth weight, gestational age; and all were FF	**Limitations:** Cannot determine whether groups were similar at baseline on education, SES, or maternal age, early CFB group was 1cm shorter than EBF group at baseline; Participants (infants/mothers) were not blinded; Cannot determine if investigators were blinded For technical reasons due to sample size limitations, outcome measurements were available for n:23 in group receiving CFB at 16wk group and n:18 in the group delaying CFB to 26wk Sample size was very small
Jonsdottir, 2012 Randomized Controlled Trial; Iceland **Sample Size**: Baseline N: 119 Analytic N: 100	**Intervention/Exposure:** EBF infants were randomized to one of 2 groups: EBF: Remained exclusively BF until 6mo CFB: Receive CFB starting at age 4mo CFB: Foods other than BM; Diaries indicated every new food added to CFB infant diet from 4mo to 6mo	**Limitations:** Cannot determine if investigators or outcome assessors were blinded; Participants were not blinded; Outcome assessment methods were not validi/reliable (non-duplicate and

Attrition: 16% Sample Size Calculation: N=50 (to detect differences in Fe status) **<u>Sex:</u>** 55% Female **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: All infants were EBF up to 4mo, and continue to be BF through 6mo	**Age:** 4mo **Assessment Methods**: Maternal diet diary; Food record, 3d, weighed **<u>Outcomes:</u>** Weigh; Length; HC **Age:** birth-6mo; 4-6mo **Assessment Methods**: Weight: Seca scale; used for WAZ by WHO standards Length: measuring board; used for LAZ by WHO standards HC: non-stretchable tape **<u>Confounders accounted for:</u>** Feeding practices: All EBF Gestational age: All full-term Other: Delivery mode	various assessors; data collected in routine health care visits at health centers)
Jonsdottir, 2013 Randomized Controlled Trial; Iceland **<u>Sample Size</u>**: Baseline N = 119 (N=100 completed the intervention) Analytic N = 54-78 Attrition = 34.5% Power Analysis and Sufficient Sample Size: N=66 (to detect an 11.2 point difference in the Brigance screening test at 30-35mo, 80% power) **<u>Sex:</u>** 54.5% Female **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: In Iceland, 50% of infants are	**<u>Intervention/Exposure:</u>** EBF infants were randomized to one of 2 groups: EBF: Remained exclusively BF until 6mo CFB: Receive CFB starting at age 4mo CFB: Foods other than BM; Diaries indicated every new food added to CFB infant diet from 4mo to 6mo **Age:** 4mo **Assessment Methods**: Maternal diet diary; Food record, 3d, weighed **<u>Outcomes:</u>** HC **Age:** birth-18mo **Assessment Methods**: HC: gain; measured with non-stretchable tape (Jonsdottir, 2012) **<u>Confounders accounted for:</u>** Feeding practices: All EBF Gestational age: All full-term Other: Delivery mode	**<u>Limitations:</u>** Cannot determine if investigators or outcome assessors were blinded; Participants were not blinded; Cannot determine validity/reliability of outcome measurements (non-duplicate and various assessors; lack of detail for HC; data collected in routine health care visits at health centers) Authors note that the analysis my have been underpowered (small sample size) to detect potential small differences in developmental outcomes

EBF through 4mo and 35% through 5mo		
Jonsdottir, 2014 Randomized Controlled Trial; Iceland **Sample Size**: Baseline N: 119 Analytic N: 100 Attrition: 16% Sample Size Calculation: N=50 (to detect differences in Fe status) **Sex:** 54.5% Female **Race/Ethnicity**: NR **Background Diet**: In Iceland, 50% of infants are EBF through 4mo and 35% through 5mo	**Intervention/Exposure:** EBF infants were randomized to one of 2 groups: EBF: Remained exclusively BF until 6mo CFB: Receive CFB starting at age 4mo CFB: Foods other than BM; Diaries indicated every new food added to CFB infant diet from 4mo to 6mo **Age:** 4mo **Assessment Methods**: Maternal diet diary; Food record, 3d, weighed **Outcomes:** Weight status; Weight; Length; HC **Age:** 18, 29-38mo **Assessment Methods**: Weight status: risk for overweight classified as >1SD above BMI-for-age (WHO); Overweight classified as >2SD above; Obesity classified as >3SD Weight: via Seca scale; WAZ and Δ WAZ by WHO standards Length: via measuring board/body meter; LAZ and Δ LAZ by WHO standards HC: non-stretchable tape **Confounders accounted for:** Feeding practices: All EBF Gestational age: All full-term Other: Delivery mode	**Limitations:** Groups differed in mode of delivery, which was not adjusted for in analyses; Cannot determine if investigators or outcome assessors were blinded; Participants were not blinded; Cannot determine validity/reliability of outcome measurements (non-duplicate and various assessors; data collected in routine health care visits at health centers) Relatively small sample-size
Wells, 2012 Randomized Controlled Trial; Iceland **Sample Size**: CFB Group Baseline N: 61 EBF Group Baseline N: 58	**Intervention/Exposure:** CFB Group: Advised to introduce CFB at 4mo (no specific advice regarding type/amount of CFB to introduce) EBF Group: Advised to exclusively BF through 6mo **Age:** 4-6mo **Assessment Methods**: Food records, 3d	**Limitations:** Groups differed at baseline on multiparity, vaginal delivery; cannot determine whether these differences were adjusted for in subsequent analyses; Participants, outcome assessors were not blinded; cannot determine whether investigators were

CFB Group Analytic N: 50 EBF Group Analytic N: 50 Attrition: 16% Power Analysis and Sufficient Sample Size: N=50/group to detect differences of 75 g/d with 80% power and 5% significance **Sex:** 50% Female **Race/Ethnicity**: NR **Background Diet**: EBF: 100% at baseline	**Outcomes:** Body composition (Adiposity; BMI); Weight; Length, HCz **Age:** 6mo **Assessment Methods**: Body composition: • Lean/fat mass: Calculated based on total body water • BMI: Calculated using measured weight, length Weight: Measured by study personnel Length: Measured by study personnel, recumbent HC: z-score, measured by study personnel **Confounders accounted for:** None	blinded; Cannot determine the validity/reliability of outcome assessment (i.e., single vs multiple measures); Adequacy of statistical methods insufficient (no description of which potential confounders were included in analyses) Data from the RCT in Jonsdottir, 2012; Jonsdottir, 2013; Jonsdottir, 2014
Prospective cohort studies		
Abraham, 2012 Prospective Cohort Study; Scotland **Sample Size**: Baseline N: 5,217 Analytic N: 4,493 (completed survey at 9-12mo); 3,994 (completed outcomes at 45-48mo) Attrition: 13.9% Power Analysis: NR **Sex:** NR **Race/Ethnicity**: 4% non-white ethnic group (Bradshaw, 2007) **Background Diet**: 61.0% ever BF, 39.0% never BF	**Intervention/Exposure:** Age of CFB introduction: 0-3 vs. 4-5; 0-3 vs. 6-10mo **Age:** 0-24mo **Assessment Methods**: Caregiver self-report at 9-12mo **Outcomes:** Weight status (Overweight/obesity) **Age:** 45-48mo **Assessment Methods**: Weight status: risk of overweight/obese BMI >/= 1.04, or not overweight/obese</= 1.04 (UK 1990 ref. curves BMIZ cut-off) Weight, height: NR **Confounders accounted for:** SES: X Birth size: X (Birth weight)	**Limitations:** Cannot determine whether groups were similar at baseline on key characteristics; Key confounders from the analytic framework were NR or adjusted for in analyses including sex, race/ethnicity, maternal age, or gestational age; Cannot determine if outcome assessors were blinded, primary interviewers were unblinded Other: IV/Exposure was self-report; Bradshaw, 2007 summarizes Sweep 1 baseline characteristics -

Agras, 1990 Prospective Cohort Study; U.S. **<u>Sample Size</u>**: Baseline N: 99 Analytic N: 54 Attrition: 45% Power Analysis/Sample Size Calculation: NR **<u>Sex:</u>** NR **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: BF and/or FF	**<u>Intervention/Exposure:</u>** Age of CFB introduction: Weeks, continuous **Age:** 2, 4, 12, 20wk **Assessment Methods**: Maternal report **<u>Outcomes:</u>** BMI; skinfold thickness **Age:** 1, 2, 3 a/o 6y **Assessment Methods**: Body composition: skin-fold thickness, and log BMI (more normally distributed) calculated from measures Weight, height: measured in the laboratory **<u>Confounders accounted for:</u>** Education: X Sex: X Feeding practices: X Birth size: X (Birth BMI) Other: parent BMI, # feedings/d; sucking pressure, interval of sucking bursts, caloric intake during suckling, active feeding time	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Due to limited information provided about methods,; Did not adjust for potential key confounders (SES, maternal age, race/ethnicity, gestational age); Did not account for high attrition rate (~45%) Log birth BMI was used as birth size variable in regression; Only assessed infant feeding practices through 5mo of age Cannot rule out reverse causality (vigorous BF may influence timing CFB introduction)
Atkins, 2016 Prospective Cohort Study; Australia **<u>Sample Size</u>**: Baseline N: 542 Analytic N: 423 Attrition: 22% Power Analysis/Sample Size Calculation: NR **<u>Sex:</u>** ~47% Female **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: 2% never BF, 46% BF at 9mo, 9% BF at 20mo	**<u>Intervention/Exposure:</u>** Age of CFB introduction: <6 vs. >6mo **Age:** 3mo **Assessment Methods**: 3, 24-h recalls by parent **<u>Outcomes:</u>** Weight; Height **Age:** 9mo, 20mo **Assessment Methods**: Weight, length: Measured by trained staff using digital scales and calibrated measuring mat **<u>Confounders accounted for:</u>** None	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine relability/validity of outcome assessment (used measuring mat, not length board); Did not adjust for any potential key confounders (education, SES, sex, maternal age, race/ethnicity, feeding practices, birth size, gestational age) Cannot determine if analyses adjusted for differences in birth weight and

		length differed between groups; weight/length at 9mo not shown) *Weight/length were secondary oucomes
Ay, 2008 Prospective Cohort Study; The Netherlands **<u>Sample Size</u>**: Baseline N: 1232 Analytic N: 1012 Attrition: 17.9% Power Analysis/Sample Size Calculation: NR **<u>Sex:</u>** 48.2% Female **<u>Race/Ethnicity</u>**: 100% "Dutch ethnicity" **<u>Background Diet</u>**: ~90% ever BF, duration of BF = ~5mo	**<u>Intervention/Exposure:</u>** Age of CFB introduction: <5 or >5mo CFB: Fruit snack **Age:** 2, 6, and 12mo **Assessment Methods**: Caregiver questionnaire **<u>Outcomes:</u>** Body composition (Adiposity) **Age:** 24mo **Assessment Methods**: Body composition: sum of skinfold thickness (biceps, triceps, suprailiacal, subscapular) measured by study personnel using calipers **<u>Confounders accounted for:</u>** Education: X Sex: X Maternal age: X Gestational age: X Other: Smoking	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Did not adjust for any key confounders (SES, race/ethnicity/feeding practices, birth size)
Baird, 2008 Prospective Cohort Study; U.K. **<u>Sample Size</u>**: Baseline N = 1,973 Analytic N = 1,740 at 6mo; 1335 at 12mo Attrition = 11.8%; 32.4% at 12mo Power Analysis and Sufficient Sample Size: NR	**<u>Intervention/Exposure:</u>** Age of CFB introduction: early (<3, 3, at 4mo) or later (5mo+) CFB: Any other food aside from HM or HM substitute; 99% introduced CFB <5mo **Age:** 12mo **Assessment Methods**: Timing: Maternal report Type: FFQ over 7d at 6mo; FFQ over 28d at 12mo; Dietary patterns identified by PCA	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline; Unclear whether outcome assessors were blinded to the infants' feeding histories; Did not adjust for potential key confounders (SES, maternal age, race/ethnicity, feeding practices, birth size, gestational age)

<u>Sex:</u> 46.9% female **<u>Race/Ethnicity</u>**: 94% white **<u>Background Diet</u>**: 0-6mo: 7.5% BF; ~21% FF, ~71.5% MF combination of BF and FF assessed via caregiver-report at 6mo	**<u>Outcomes:</u>** Body composition; Weight; Length **Age:** 6mo, 0-6mo **Assessment Methods**: Weight: digital scale; crude and change in weight SD score from 0-6mo and 6-12mo Length: infantometer; crude and change in length SD score from 0-6mo and 6-12mo Body composition: triceps and subscapular skinfold calipers; crude and thickness SD score from 0-6mo and 6-12mo **<u>Confounders accounted for:</u>** Education: X Sex: X Gestational age: X Other: Parity; Smoking	BF duration and infant diet was retrospectively self-reported by mothers at 6 and 12mo, thus may have been biased; ethnic minorities were underrepresented in this sample.
Baker, 2004 Prospective Cohort Study; Denmark **<u>Sample Size</u>**: Baseline N = 5,845 Analytic N = 3,768 Attrition = 36.5% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** ~49.5% Female **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: Duration of full BF: ~16wk Duration of BF: 32wk	**<u>Intervention/Exposure:</u>** Age of CFB introduction: <16 vs. >16wk CFB: Mush or porridge **Age:** 12mo **Assessment Methods**: Maternal report **<u>Outcomes:</u>** Weight **Age:** Birth-1y **Assessment Methods**: Weight: gain birth-1y based on maternal report from the "green book" health record from physicians **<u>Confounders accounted for:</u>** Education: X SES: X (income) Sex: X Maternal age: X Feeding practices: X Birth size: X (Birth weight)	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on race/ethnicity; Outcome assessors were not blinded-both the independent and dependent variables were measured using non-validated methods (maternal self-report); Did not account for high loss to follow-up (>35%); Did not adjust for potenital key confounder of race/ethnicity Did not collect types-amounts of CFB or composition, or energy expenditure, or timing of introduction of formula

	Gestational age: X Other: Parity; Delivery mode; Infant age; Maternal occupation; Spouse; Gestational weight gain; Smoking; Infant length at 1y (reverse causality)	
Barrera, 2016 Prospective Cohort Study; United States **Sample Size**: Baseline N: 1542 Analytic N: 1181 Attrition: ~23.4% Power Analysis and Sufficient Sample Size: NR **Sex:** 50.1% Female **Race/Ethnicity**: 88.3% non-Hispanic white; 3% non-Hispanic black; 5% Hispanic; 2.3% other **Background Diet**: NR	**Intervention/Exposure:** Age of CFB introduction: <4, 4–<6, and ≥6mo CFB: Solid foods included dairy foods other than milk (e.g., yogurt, cheese, and ice cream); soy foods other than soy milk (e.g. Tofu, frozen soy desserts); baby cereal; other cereals and starches (e.g., breakfa **Age:** 4-6mo **Assessment Methods**: Caregiver report **Outcomes:** Weight status **Age:** 6y **Assessment Methods**: Weight status: risk of obesity based on age- and sex-specific BMI%tile 2000 CDC; BMI calculated from height and weight measured by mothers **Confounders accounted for:** Education:X SES: X Sex: X Maternal age: X Race/ethnicity: X Feeding practices: X Birth size: X Gestational age: X Other: Parity; Maternal BMI; Marital status; Infant intake of CFB	**Limitations:** Cannot determine whether groups were similar at baseline on key characteristics; Outcome assessors were not blinded, both the independent and dependent variables were maternal self-report; Non-validated measures used to assess outcome Maternal self-report of IV/Exposure and Outcomes; Sample not nationally representative
Barton, 2002 Prospective Cohort Study; U.S. **Sample Size**: Baseline N = 52	**Intervention/Exposure:** Age of CFB introduction: <4, >4mo CFB: "Solid foods" including infant cereal, vegetables, fruits, and <6oz fruit juice/d	**Limitations:** Cannot determine whether groups differed at baseline on key characteristics; Cannot determine

Analytic N = 52 Attrition = 0% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** NR **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: 46% BF, 54% FF at birth 33% BF, 67% FF at 1-2mo 83% received CFB <4mo	**Age:** 4-6mo **Assessment Methods**: Caregiver report **<u>Outcomes:</u>** Weight; Length; HC **Age:** 1-2mo; 4-6mo **Assessment Methods**: Weight: measured by study personnel on balance-beam scale Height: measured by trained personnel, on standard length board HC: measured by study personnel with nonfabric measuring tape **<u>Confounders accounted for:</u>** None Other: Weights, lengths, and HC at baseline NSD between groups	whether outcome assessors were blinded; Length of follow-up varied from 4 to 6mo of age; Cannot determined validity/reliability of measures used to assess outcomes (single vs. multiple measures); Did not adjust for any potential key confounders (including education, SES, sex, maternal age, race/ethnicity, feeding practices, birth size, gestational age) Post-hoc tests suggest marginal significance Did not adjust for baseline values though weight, length, and HC at 1-2mo were similar between groups; Groups were unbalanced (40 infants in the CFB <4mo group vs. 8 infants in the >4mo group) Cannot rule out reverse causality (group already not gaining weight well) Very short term followup
Butte, 2000 Prospective Cohort Study; United States **<u>Sample Size</u>**: Baseline N = 76 Analytic N = 72 Attrition = 5.3% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 56.6% Female	**<u>Intervention/Exposure:</u>** Age of CFB introduction: Continuous CFB: Solids other than formula, milk, juice, water, and vitamin-mineral supplements **Age:** 3, 6, 12, and 24mo **Assessment Methods**: Food record, 3d, weighed **<u>Outcomes:</u>** Body composition; Weight; Length; Circumferences (head, chest, arm, thigh) **Age:** 6-24mo	**<u>Limitations:</u>** Cannot determine whether groups differed at baseline on key characteristics; Did not adjust for potential key confounders (education, SES, maternal age, race/ethnicity, birth size, gestational age)

Race/Ethnicity: 72.4% White, 9.2% Black, 14.5% Hispanic, 3.9% Asian **Background Diet**: BF and FF infants were analyzed separately Mean age of introduction of solids was ~5mo for BF infants and ~4mo for FF infants	**Assessment Methods**: Body composition: • Fat mass, fat-free mass calculated using a multicomponent body composition model based on total body water by deuterium dilution, total body potassium by whole body counting, and bone mineral content by DXA • Skinfold thickness (triceps, subscapular, flank, quadriceps): measured by study personnel Weight, length, circumferences (head, chest, arm, thigh) measured by study personnel **Confounders accounted for:** Sex: X Feeding practices: X Other: Baseline anthropometric values	
Cantoral, 2016 Prospective Cohort Study; Mexico **Sample Size**: Baseline N: 622 (enrolled in F/U) Analytic N: 227 Attrition: ~64% Power Analysis and Sufficient Sample Size: NR **Sex:** 54% female **Race/Ethnicity**: NR **Background Diet**: 31% at least partial BF; 73% introduced to SSB <12mo	**Intervention/Exposure:** Age of CFB introduction: ≤12 vs >12mo CFB: SSB: sum of daily intake of soda, commercial fruit drinks, flavored water with sugar; Not including natural fruit or vegetable juice **Age:** 12mo; every 6mo until 5y; at 8-14y **Assessment Methods**: 116-item FFQ **Outcomes:** Weight status; WC **Age:** 8-14y **Assessment Methods**: Weight status: risk of obesity classified as BMI>2 SD of z-score; BMI from measured weight (digital scale to 0.1kg) and height (stadiometer to 0.1cm) WC: measuring tape to 0.1cm for abdominal obesity: WC≥ 90th %tile **Confounders accounted for:** SES: X	**Limitations:** Cannot determine whether groups differed at baseline on key characteristics; Cannot determine if outcome assessors were blinded; Did not account for high attrition rate; Did not adjust for key confounders of education, maternal age, race/ethnicity, birth size or gestational age Risk for measurement error associated with FFQ; Assumes that SSB intake was constant during the months evaluated on FFQ

	Sex: X Feeding practices: X Other: non-SSB intake, TV watching, physical activity, maternal obesity at 12mo post-partum	
Carruth, 2000 Prospective Cohort Study; U.S. **Sample Size**: Baseline N = 98 Analytic N = 94 Attrition = 4.1% Power Analysis and Sufficient Sample Size: Use of an incomplete block design maintained statistical power **Sex:** 48.0% female (Skinner, 1997) **Race/Ethnicity**: 100% White **Background Diet**: 83% any BF, 33% EBF at 4mo, 33% MF at 4mo; 12% EBF at 6mo ~64% CFB by 4mo; Median age for introducing CFB: cereal 4.0 (range .50–6.5 mo), juice 4.50 (1–11 mo), fruit 5.0 (.50–8.2 mo), vegetables 5.5 (1–7.7 mo) and the food cluster (mixed foods, table foods, meat) 7.0 (3–12 mo)	**Intervention/Exposure:** Age of CFB introduction: Continuous CFB: supplementary foods included vegetables, cereal, juice, fruit, and food cluster (meat, mixed food, or table food) **Age:** 2, 3, 4, 6, 8, 10, 12, 16, 20, and 24mo **Assessment Methods**: 24h recall **Outcomes:** Weight; Length **Age:** 2-8mo; 12-24mo **Assessment Methods**: Weight: slope (kg/mo); standard protocol Length: slope (cm/mo); standard protocol Interview schedules were done using an incomplete block design, such that the number of times measures were taken for each infant 3-5 times from 2 to 10mo, and 2-4 times from 12 to 24mo **Confounders accounted for:** Sex: X Other: Final model 2-8mo weight slope: gender; Final model 2-8mo length slope: gender; Final model 2-8mo rate of change weight: gender, length slope; Final model 12-24mo weight gain: length, pre-existing weight	**Limitations:** Cannot determine whether groups differed at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine adequacy of statistical methods (previous versions of regression models not described, data not shown); Did not adjust for potential key confounders (education, SES, maternal age, race/ethnicity, birth size, or gestational age) Limited generalizability (small sample of white middle- to upper class subjects from TN); Results section reports that only age of introduction to vegetables and food cluster remained as significant predictors in rate of change in relative weight but that ages of CFB were not significant predictors in weight gain 12-24mo; Unclear if cereal ≤4 or >4mo was analyzed in relation to weight outcomes (reports in relation to illness). Final models reported significant predictors of weight change but post-hoc removal of length resulted in models becoming no longer significant Cannot rule out reverse causality

de Beer, 2015 Prospective Cohort Study; The Netherlands **<u>Sample Size</u>**: Baseline N: 7863 (gave birth; N: 5551 with data; N:3321 attended 5-6y visit) Analytic N: 2227 Attrition: ~72% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** ~49% Female **<u>Race/Ethnicity</u>**: ~78% Dutch ~2.4% Surinamese ~2% Turkish ~4% Moroccan ~13% Other **<u>Background Diet</u>**: ~23% <1mo BF; ~27% BF 1-3mo; ~31% BF 3-mo; ~19% BF >6mo	**<u>Intervention/Exposure:</u>** Age of CFB introduction: <4, 4-6, >6mo **Age:** 1-11mo **Assessment Methods**: Monitored at check-ups **<u>Outcomes:</u>** Weight; Height; Body composition z-score, height z-score, fat-mass z-score; BMIZ **Age:** 6-12mo; 5-6y **Assessment Methods**: Body composition: • BMIZ calculated based on measured weight and height; z-score • Fat mass (FMZ), fat free mass (FFMZ) z-scores: calculated based on total body water from measured arm-leg bioelectrical impedance Weight, height: measured via scale, length board, and portable stadiometer; 'Conditional' sizes were created by standardized residuals derived from regressions of current and prior height and weight measures. Conditional height and weight represent a child's deviation from expected size and growth **<u>Confounders accounted for:</u>** Education: X Sex: X Maternal age: X Race/ethnicity: X Feeding practices: X Birth size: X (Birth weight) Gestational age: X Other: Current age; Childhood conditional height (12 months—5–6 years); Conditional height and weight during all periods in infancy; Maternal pre-pregnancy BMI; Maternal Height; Smoking; Alcohol; Hypertension; Pregnancy duration as gestational age	**<u>Limitations:</u>** Cannot determine whether groups differed at baseline on key characteristics; Cannot determine if outcome assessors or investigators were blinded; Did not adjust for potential key confounder (SES); High-attrition rate not accounted for High loss to follow-up and group analyzed differed from original cohort in ways NR; Anthropometric measurements less precise than DEXA; Reverse causality of infant feeding and growth Results reported in abstract and discussion differ from results reported in tables; No cut-off/P-values were reported in tables related to analyses

Durmus, 2012 Prospective Cohort Study; The Netherlands **Sample Size**: Baseline N: 1106 Analytic N: 779 Attrition: 29.6% Power Analysis and Sufficient Sample Size: NR **Sex:** 49% female **Race/Ethnicity**: 100% "Dutch ethnicity" **Background Diet**: 87.5% ever BF; ~4.5mo BF duration	**Intervention/Exposure:** Age of CFB introduction: <4, 4-5, >5mo CFB: Age that a fruit or vegetable snack was given **Age:** 2, 6, and 12mo **Assessment Methods**: Caregiver questionnaire **Outcomes:** Body composition (Adiposity) **Age:** 6mo, 24mo **Assessment Methods**: Body composition: • Subcutaneous fat mass via skinfold thickness (biceps, triceps, suprailiacal, subscapular) measured by study personnel using calipers **Confounders accounted for:** Education: X Sex: X Feeding practices: X Birth size: X (Birth weight) Gestational age: X Other: Maternal BMI, Smoking; Parity; Current height; Observer	**Limitations:** Cannot determine whether groups were similar at baseline on all key characteristics; Cannot determine whether outcome assessors were blinded; Did not assess the impact of high loss to follow-up (~27%); Did not adjust for key confounders (SES, maternal age, race/ethnicity) BF information only available in 78% of sample; CFB included only a fruit or vegetable snack and other products could have been introduced; Homogenous, highly-educated sample; Limited generalizability
Durmus, 2014 Prospective Cohort Study; The Netherlands **Sample Size**: Baseline N: 6054 Analytic N: 5063 Attrition: 16.4% Power Analysis and Sufficient Sample Size: NR **Sex:** 50.2% Female	**Intervention/Exposure:** Age of CFB introduction: <4, 4-4.9, ≥5mo CFB: Age that a fruit or vegetable snack was given **Age:** 2, 6, and 12mo **Assessment Methods**: Caregiver questionnaire **Outcomes:** Weight status; Body composition; WC (abdominal fat) **Age:** 6y **Assessment Methods**: Weight status: risk of overweight or obesity based on IOTF categories for BMI	**Limitations:** Cannot determine whether groups were similar at baseline on all key characteristics; Cannot determine whether outcome assessors were blinded; Did not adjust for key confounders (SES or feeding practices) Did not collect information on BM consumption or composition

Race/Ethnicity: 100% "Dutch ethnicity" **Background Diet**: 92.4% ever BF; 20.4% EBF to 4mo	Body composition: • Adiposity: total fat mass, android-gynoid ratio (DXA) • BMI: calculated from measured height/weight (stadiometer/ mechanical scale) Abdominal/WC: abdomial fat via ultra-sound **Confounders accounted for:** Education: X Sex: X Maternal age: X Race/ethnicity: X Birth size: X Gestational age: X Other: Child age, Child height; Parity; Maternal BMI, Smoking; TV watching	
Ejlerskov, 2015 Prospective Cohort Study; Denmark **Sample Size**: Baseline N = 330 Analytic N = 233 Attrition = 29.4% Power Analysis and Sufficient Sample Size: N=260 to detect differences in growth **Sex:** 52.4% Female **Race/Ethnicity**: NR **Background Diet**: EBF: 126d, median (IQR=91-152); fully BF at 4mo: 67.8%; PBF at 9mo: 42.5%; median g/day formula at 9mo: 169 (IQR=0-410); median mo	**Intervention/Exposure:** Age of CFB introduction: earliest age receiving one of 19 food categories in mo; **Age:** 9, 18, and 36mo **Assessment Methods**: Parental interview **Outcomes:** Body composition **Age:** 36mo (±3) **Assessment Methods**: Body composition: • Fat free mass index, fat mass index: calculated from BIA and DXA measures for fat mass and fat free mass **Confounders accounted for:** Education: X Sex: X Feeding practices: X (Table 7) Birth size: X Other: WAZ 0-5mo; Maternal BMI	**Limitations:** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine validity and reliability of dietary assessment; Did not assess the impact of high loss to follow-up (~29%); Did not adjust for key confounders such as SES, maternal age, race/ethnicity, or gestational age Insufficient power; prediction error of FFM and FM from BIA vs. DXA; age of introduction to CFB collected retrospectively; Fully BF for 6mo group drove results;

introduction of solids: 4.0 (IQR=4.0-5.0)		
Fairley, 2015 Prospective Cohort Study; United Kingdom **Sample Size**: Baseline N: 1707 Analytic N: 987 Attrition: ~42% Power Analysis and Sufficient Sample Size: NR **Sex:** NR **Race/Ethnicity**: 39% White British 48% Pakistani 13% Other **Background Diet**: 27% never BF; 26.3% BF <1mo; 18.5% BF 1-4mo; 28.2% BF >4mo	**Intervention/Exposure:** Age of CFB introduction: <17 or ≥ 17wk **Age:** 6 and 12mo **Assessment Methods**: Caregiver questionnaire **Outcomes:** Weight status; body composition **Age:** 36mo **Assessment Methods**: Weight status: relative risk of overweight classified as BMIZ ≥ 85th %tile Body composition: BMI z-scores by WHO, 2006 standards from weight and height **Confounders accounted for:** Education: X Sex: X Maternal age: X Race/ethnicity: X Feeding practices: X Birth size: X Gestational age: X Other: Parity; Delivery Mode	**Limitations:** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine validity/reliability of outcome assessment; Did not assess the impact of high loss to follow-up (~42%); Did not adjust analyses for SES Insufficient power to examine Obesity; Multiple testing not accounted for
Fawzi, 1997 Prospective Cohort Study; Israel **Sample Size**: Baseline N: 1041 Analytic N: 351 Attrition: 66% Power Analysis and Sufficient Sample Size: NR	**Intervention/Exposure:** Age of CFB introduction at 1, 2, or 3mo vs. EBF CFB: solids exclusively **Age:** Birth, 1-3mo **Assessment Methods**: Maternal interview **Outcomes:** Weight **Age:** 2mo, 3mo	**Limitations:** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine validity/reliability of outcome assessment; Did not adjust for potential confounders of SES, maternal age, race/ethnicity, or gestational age;

<u>Sex:</u> NR **<u>Race/Ethnicity</u>**: 49% Israel 51% immigrants from North African country **<u>Background Diet</u>**: 92.3% EBF at birth; 35.9% EBF at 1mo; 19.6% EBF at 2mo; 7.3% EBF at 3mo; 0.7% EBF at 6mo	**Assessment Methods**: Weight: gain; beam-balance scales to 0.1kg **<u>Confounders accounted for:</u>** Education: X Sex: X Feeding practices: X (in analyses) Birth size: X (Birth weight, weight at first prenatal visit) Other: Maternal height	Did not account for only 2 infants being EBF at 6mo so could not do comparisons as planned Cannot rule out reverse causality Limited generalizability due to immigrant sample Short-term follow-up
Ferris, 1980 Prospective Cohort Study; United States **<u>Sample Size</u>**: Baseline N: 92 Analytic N: 92 Attrition: 0% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 100% Female **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: 43.5% BF alone; 13% BF+solids; 11% FF alone; 21.7% FF+solids	**<u>Intervention/Exposure:</u>** Age of CFB introduction: at 2mo or >2mo CFB: CFB+FF vs. FF alone **Age:** 2mo **Assessment Methods**: Food record, 3d and diary **<u>Outcomes:</u>** Body composition; Weight; Length **Age:** birth-6mo **Assessment Methods**: Body composition: weight/length^2 from measures Weight, and height with scale and infantometer **<u>Confounders accounted for:</u>** SES: X Sex: X (all female) Birth size: X Other: Income, maternal smoking, parent weight, and parity at baseline similar between groups	**<u>Limitations:</u>** Cannot determine whether outcome assessors were blinded; Did not adjust analyses for potential key confounders (education, race/ethnicity, or gestational age) Sample was 100% female - male participants were to be reported elsewhere; Feeding practices part of analyses
Flores, 2013a Prospective Cohort Study; U.S. **<u>Sample Size</u>**: Baseline N: 14000 Analytic N: 6800 Attrition: ~51%	**<u>Intervention/Exposure:</u>** Age of CFB introduction: Continuous, mo; <3.5 vs. ≥3.5mo CFB: solid food a/o finger food **Age:** NR **Assessment Methods**: Caregiver a/o teacher report	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Did not assess the impact of

Power Analysis and Sufficient Sample Size: NR **Sex:** 48.9% Female **Race/Ethnicity**: 54% White; 25% Latino; 14% African- American; 2.7% Asian/PI; 0.4% AI/AN; 3.8% Multi **Background Diet**: Average duration BF ~3.7mo Average introduction to formula ~3.5mo	**Outcomes:** Weight status **Age:** Kindergarten entry (~7.5y) **Assessment Methods**: Weight status: prevalance of overweight, based on age- and sex-specific BMI≥ 85th %tile; BMI by CDC standards, calculated from measured weight, and height (in triplicate with a digital scale and stadiometer) **Confounders accounted for:** None Recursive partioning analyses accounted for: BMI at preschool age and at 2y, race/ethnicity, maternal gestational diabetes, birth weight	high loss to follow-up (~51%); Did not adjust analyses for potential key confounders (education, SES, sex, maternal age, or gestational age) RPA selects highest significance for binary split based on reducing variance not by P values; groups varied by outcome status in all risk factors assessed in bivariate analyses
Flores, 2013b Prospective Cohort Study; United States **Sample Size**: Baseline N: 14000 Analytic N: 6800 Attrition: ~51% Power Analysis and Sufficient Sample Size: NR **Sex:** 48.9% Female **Race/Ethnicity**: 54% White 25% Latino 14% African- American 2.7% Asian/PI 0.4% AI/AN 3.8% Multi **Background Diet**: Average duration BF ~3.7mo	**Intervention/Exposure:** Age of CFB introduction: Continuous, mo CFB: solid food a/o finger food **Age:** NR **Assessment Methods**: Caregiver a/o teacher report **Outcomes:** Weight status **Age:** Kindergarten entry (~7.5y) **Assessment Methods**: Weight status: prevalance of obesity classified as BMI≥99th %tile; age- and sex- specific BMI by CDC standards calculated from weight, and height, which were measured in triplicate with a digital scale and stadiometer **Confounders accounted for:** Feeding practices: X (in model)	**Limitations:** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Did not assess the impact of high loss to follow-up (~51%); Did not adjust analyses for potential confounders (education, SES, sex, maternal age, race/ethnicity, birth size or gestational age) Lack of information provided on intervention/exposure measurement; Feeding practices included in model

Average introduction to formula ~3.5mo		
Forsyth, 1993 Prospective Cohort Study ; Scotland **Sample Size**: Baseline N: 671 Analytic N: 584 at 8wk; 576 at 13wk; 544 at 26wk; 548 at 52wk; 392 at 104wk Attrition: ~13% at 8wk; ~14% at 13wk; ~19% at 26wk; ~18% at 52wk; ~42% at 104wk Sample Size Calculation: NR **Sex:** ~52% Female **Race/Ethnicity**: NR **Background Diet**: 14% EBF, 19.3% PBF, 66% MF	**Intervention/Exposure:** Age of CFB introduction: <8, 8-12, or >12wk **Age:** 8-12wk (~2-3mo) **Assessment Methods**: Maternal questionnaire **Outcomes:** Weight **Age:** 4, 8, 13, 26, 52, 104wk **Assessment Methods**: Weight: weighing machine with 20g divisions **Confounders accounted for:** SES: X Sex: X Maternal age: X Feeding practices: X Birth size: X (Birth weight) Gestational age: All full-term Other: Smoking; Atopy risk	**Limitations:** Groups differed at baseline on key characteristics but analyses were not adjusted for differences; Cannot determine reliability/validity of outcome assessment; Did not adjust analyses for potential key confounders (education, race/ethnicity, or gestational age). Cannot rule out reverse causality (males earlier CFB and birth weights >4kg)
Friel, 1985 Prospective Cohort Study; Canada **Sample Size**: Baseline N = 110 (50 pre-term, 60 full-term) Analytic N = 110 Attrition = N/A Power Analysis and Sufficient Sample Size: NR **Sex:** 48% Female **Race/Ethnicity**: NR	**Intervention/Exposure:** Age of first CFB introduction (NR) **Age:** 6mo **Assessment Methods**: Diet record, 3d **Outcomes:** Weight **Age:** 12mo **Assessment Methods**: Weight: spring balance (pre-term); beam balance (full-term) to 50g **Only weight at 12mo reported in relation to CFB* **Confounders accounted for:** SES: X	**Limitations:** Cannot determine if inclusion/exclusion criteria were similar across groups; Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Did not adjust analyses for potential key confounders (maternal age though groups were similar, education, race/ethnicity, or feeding practices) Only reported outcomes in relation to weight at 12mo and cross-sectional

<u>Background Diet</u>: 12% (pre-term) and 47% (full-term) BF at 3mo At 6mo, 10% (pre-term) and 25% (full-term) given cow's milk Pre-term mixed-fed earlier than full-term infants (at 166d vs. 85d)	Sex: X Birth size: X Gestational age: X Other: Maternal age was similar between groups	analysis of age of introduction to CFB and length at 3mo
Gaffney, 2012 Prospective Cohort Study; U.S. **<u>Sample Size</u>**: Baseline N = 4902 Analytic N = 691 Attrition = 85.9% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 49.3% Female **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: BF intensity in late infancy: 52.1% low, 24.3% medium, 23.6% high	**<u>Intervention/Exposure:</u>** Age of CFB introduction: <4, 4-6, and >/=6mo **Age:** 1, 2, 3, 4, 5, 6, 7, 9, 10, and 12mo **Assessment Methods**: Maternal questionnaire **<u>Outcomes:</u>** Weight **Age:** 12mo **Assessment Methods**: Weight: WAZ via maternal-report of weight from recent doctor visit; calculated age and sex-specific z scores by CDC standards **<u>Confounders accounted for:</u>** Education: X SES: X Maternal age: X Race/ethnicity: X Feeding practices: X Birth size: X (Birth weight) Other: Mother's smoking status, weight gain in pregnancy, pregravid BMI	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine reliability/validity of outcome assessment and outcome assessors were not blinded due to both feeding and outcome data self-reported by mothers; Did not assess the impact of high loss to follow-up (~40%); Did not adjust analyses for potential confounders (sex, gestational age) Generalizability limited due to sample not being representative (Data not derived from a nationally representative sample, underrepresented minority groups; sample biased toward mothers with more education and higher SES)
Garden, 2012 Prospective Cohort Study; Australia **<u>Sample Size</u>**: Baseline N: 616	**<u>Intervention/Exposure:</u>** Age of CFB introduction: ≤3 or >3mo CFB: solid food ever **Age:** 3mo **Assessment Methods**: Questionnaire	**<u>Limitations:</u>** Cannot determine whether groups were similar on baseline characteristics; Cannot determine whether outcome assessors were blinded; Did not account for high attrition rate/lost to follow-up (40%);

Analytic N: 370 (at 3mo, Timing) Analytic N: 298 (at 18mo, Type) Attrition: 40% (3mo) Attrition: 51.6% (18mo) Power Analysis and Sufficient Sample Size: NR **Sex:** 49% female **Race/Ethnicity**: NR **Background Diet**: 40% BF 0-3mo; 16.8% BF 3-6mo; 43.2% BF ≥6mo	**Outcomes:** Body composition **Age:** birth-11.5y **Assessment Methods**: Body composition: BMI trajectory: calculated in kg/m2 based on measured weight and height (weight, electronic bathroom scale to 1kg; length: portable stadiometer to 1cm); categorized using CDC curves for BMI %tile: • Normal: tracks at 50th • Early and Persistent: at 75th at 2y crossing to 95th at 11.5y • Late Increase: tracks at 50th at 2y; crossed to 85th at 8y, and 90th at 11.5y Measurements made by study nurses at 1, 3, 6, and 9mo; every 6mo from 9mo-5y, at 8y, at 11.5y; WC measured but NR **Confounders accounted for:** Education: X Sex: X Race/ethnicity: X Feeding practices: X Other: n3 vs. n6 intervention group; parent obesity; smoking	Did not adjust for potential key confounders (SES, maternal age, birth size, gestational age)
Gibbs, 2014 Prospective Cohort Study; U.S. **Sample Size**: Baseline N = 10,500 Analytic N = 7,880 Attrition = 25% Power Analysis and Sufficient Sample Size: NR **Sex:** 50% Female **Race/Ethnicity**: 50% White; 16% Black, 18% Hispanic, 10% Asian, and 11% other	**Intervention/Exposure:** Age of CFB introduction: <4mo or not <4mo **Age:** 9mo **Assessment Methods**: Maternal interview **Outcomes:** Weight status (Obesity) **Age:** 24mo **Assessment Methods**: Weight status: risk of obesity, defined as 98th %tile for weight; also reported by WHO and CDC standards and by International Obesity Task Force (IOTF) cut-offs low/high BMI by sex according to measured weight **Confounders accounted for:** Education: X	**Limitations:** Cannot determine whether groups were similar on baseline characteristics; Did not account for high attrition rate/lost to follow-up (25%)

Background Diet: 28% BF for ≥3mo, 16% BF ≥6mo, 12% BF 3-5mo	SES: X Sex: X Maternal age: X Race/ethnicity: X Feeding practices: X Birth size: X (Birth weight) Gestational age: X Other: Smoking; Depression, Model 1 or 3: both biological parents in home, sibling size, mother US born, mother's BMI, twin status, daycare	
Griffiths, 2009 Prospective Cohort Study; United Kingdom **Sample Size**: Baseline N: 18,296 Analytic N: 10,533 Attrition: 42% Power Analysis and Sufficient Sample Size: NR **Sex:** 50.1% Female **Race/Ethnicity**: NR **Background Diet**: 32.1% never BF; 67.9% ever BF; 60.1% BF <4mo; 39.9% BF ≥ 4mo	**Intervention/Exposure:** Age of CFB introduction: <4 vs. ≥4mo **Age:** 9mo **Assessment Methods**: Parental interview **Outcomes:** Weight **Age:** birth-3y **Assessment Methods**: Weight: conditional weight gain from measured weight (Tanita scales) and z scores by British 1990 standards **Confounders accounted for:** Education: X SES: X Sex: X Feeding practices: X Other: Smoking; Parental BMI; Current child height 3y	**Limitations:** Cannot determine whether groups were similar on baseline characteristics; Cannot determine if outcome assessors were blinded; Cannot determine validity/reliability of outcome assessment; Did not adjust for potential key confounders (maternal age, race/ethnicity, birth size, or gestational age) Retrospective recall; reverse causality Results were significant before adjustment for current child height z-score (not a key confounder); Race/ethnicity NR ~ appears sample was 100% white
Griffiths, 2010 Prospective Cohort Study; United Kingdom **Sample Size**: Baseline N: 18,296 Analytic N: 11,653	**Intervention/Exposure:** Age of CFB introduction: <17.4 vs. ≥17.4wk **Age:** 9mo **Assessment Methods**: Parental interview	**Limitations:** Cannot determine whether groups were similar on baseline characteristics; Cannot determine if outcome assessors were blinded; Cannot determine validity/reliability of outcome assessment; Did not adjust

Attrition: ~36% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 50% Female **<u>Race/Ethnicity</u>**: 88% White 3% Mixed 2% Indian 3% Pakistani 0.8% Bangladeshi 2% Black 1% Other **<u>Background Diet</u>**: 29% never BF; 42% BF <4mo; 29% BF ≥ 4mo	**<u>Outcomes:</u>** Weight **Age:** 3-5y **Assessment Methods**: Weight: rapid weight gain, weight measured via Tanita scales *Measured but NR in relation to CFB: Height: stadiometer; z scores from measures by British 1990 standards; Overweight or Obesity by BMI based on IOTF cut-offs* **<u>Confounders accounted for:</u>** Race/ethnicity: X Gestational age: All full-term Other: Parental overweight; Smoking; # children in house	for potential key confounders (education, SES, sex, maternal age, race/ethnicity, feeding practices, birth size, or gestational age)
Grote, 2011 Prospective Cohort Study; U.K./European Union **<u>Sample Size</u>**: Baseline N: 1,090 Analytic N: 687, at 24mo Attrition: 27% Power Analysis and Sufficient Sample Size: Powered to detect a 0.6 SD difference at 24mo in any anthropometric measurement in those introduced to CFB early (≤13wk) vs. at 18-21wk. **<u>Sex:</u>** 50% Female **<u>Race/Ethnicity</u>**: 16% Germany 12% Belgium	**<u>Intervention/Exposure:</u>** Age of CFB introduction: ≤13, 14–17, 18–21, and ≥22wk **Age:** 3, 6, 9mo **Assessment Methods**: Food record, 3d, weighed; parental questionnaire **<u>Outcomes:</u>** Body composition; Weight; Length **Age:** 3,6, 12, 24mo; 3-24mo **Assessment Methods**: Body composition: • WLZ, BMI (kg/cm3), BMIZ based on measures;by WHO standards Weight, length (via digital scale, recumbent length board, or stadiometer): used to calculate WAZ/LAZ and weight velocity (kg/30d or cm/30d) from baseline **<u>Confounders accounted for:</u>** Education: X Sex: X Feeding practices: X (Formula group)	**<u>Limitations:</u>** Cannot determine if outcome assessors were blinded; Cannot determine validity/reliability of outcome assessment (lack of detail provided for single vs. multiple measures); Did not adjust for potential key confounders (SES, maternal age, race/ethnicity, or gestational age) Article notes types of CFB introduced may have had a stronger influence than the timing of CFB on growth Did not adjust for multiple comparisons

24% Italy 19% Poland 29% Spain **<u>Background Diet</u>**: 100% FF (mixed feeding allowed <8wk) Median age of introduction to CFB 19wk; 7% introduced to CFB ≤ 13wk; 97% CFB <6mo	Other: Country, Birth Order, Age, Partnership Status, Smoking; Maternal BMI; Baseline infant anthropometric values	
Haschke, 2000 Prospective Cohort Study; Austria, Germany, Spain, France, Greece, UK, Hungary, Croatia, Italy, Ireland, Portugal, Sweden **<u>Sample Size</u>**: Baseline N = 2,245 Analytic N = 1,071 Attrition = 52% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 48.6% Female **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: 15.8% WHO group (EBF); 9.1% (Early CFB); 74.9% (controls)	**<u>Intervention/Exposure:</u>** Infants were classified into groups based on their feeding patterns: WHO group: EBF for 4-6mo Early CFB: Fully BF through 4-6mo + receiving CFB <4mo Control: Did not meet criteria for the WHO or early solid feeding groups; compared to WHO group Age of CFB introduction also examined continuously (mo) **Age:** 0-6mo **Assessment Methods**: Maternal interview **<u>Outcomes:</u>** Weight, WAZ, Length, LAZ, BMIZ **Age:** 1-12mo; 1-24mo; 1-36mo; 1, 2, 3, 4, 5, 6, 9, 12, 18, 24, 30, or 36mo **Assessment Methods**: Body composition: measured weight/length used to calculate BMI and z-scores Weight: naked weight on electronic balances, to 1g Length/Height: (recumbent 1–36mo): Harpenden (UK) stadiometer, to 1mm; standing-height Harpenden stadiometer, to 1mm **<u>Confounders accounted for:</u>** Education: X Sex: X Other: Parent height	**<u>Limitations:</u>** Cannot determine whether outcome assessors were blinded; Cannot determine validity/reliability of outcome assessment due to lack of details; Did not adjust for potential key confounders (SES, maternal age, race/ethnicity, feeding practices, birth size, or gestational age) Article notes study would have been strengthened by addition of other relevant covariates, such as maternal smoking, family income, etc.

Hawkins, 2009 Prospective Cohort Study; U.K. (England, Wales, Scotland, Northern Ireland) **<u>Sample Size</u>**: Baseline N: 18,296 Analytic N: 13,188 Attrition: 27.9% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 50% Female **<u>Race/Ethnicity</u>**: 87% White; 3% Mixed; 2% Indian 3% Pakistani; 0.9% Bangladeshi; 3% Black; 1% Other **<u>Background Diet</u>**: 30% never BF; 42% BF <4mo; 28% BF ≥4mo	**<u>Intervention/Exposure:</u>** Age of CFB introduction: <4 vs. ≥4mo **Age:** 9mo **Assessment Methods**: Parental interview **<u>Outcomes:</u>** Weight status **Age:** 0-3y **Assessment Methods**: Weight status: risk of overweight and obesity, categorized based on BMI by IOTF cut-offs; BMI calculated from measure weight (Tanita scales) and height (stadiometer) z scores by British 1990 standards **<u>Confounders accounted for:</u>** Education: X SES: X Sex: X Maternal age: X Race/ethnicity: X Feeding practices: X Birth size: X (Birth weight z-scores) Gestational age: X Other: Smoking; Parental BMI; Maternal hours; Country; Garden access; Food access; Parity; Income; Ward; Marital status	**<u>Limitations:</u>** Cannot determine whether groups were similar on baseline characteristics; Cannot determine if outcome assessors were blinded; Cannot determine validity/reliability of outcome assessment
Heinig, 1993 Prospective Cohort Study; U.S.; DARLING study **<u>Sample Size</u>**: Baseline N: 105 Analytic N: 87 (N: 46 BF; N: 41 FF at 9mo) Attrition: ~17% Power Analysis and Sufficient Sample Size: NR (N: 56 per group Dewey, 1992)	**<u>Intervention/Exposure:</u>** Age of CFB introduction: BF: <26 vs. ≥26wk; FF: continuously and <20 vs. ≥20wk CFB: Date when first CFB offered was accepted **Age:** 0-26wk (~0-6mo) **Assessment Methods**: Food record,4d, weighed **<u>Outcomes:</u>** Weight; Length; Body composition **Age:** birth-4mo, 4-6mo, 6-9mo, 9-12mo; 1-18mo	**<u>Limitations:</u>** Cannot determine if outcome assessors were blinded; Cannot determine validity/reliability of outcome assessment; Did adjust for potential key confounders (gestational age) Results were partially reported for FF infants by age of introduction to CFB in text (results/discussion) but data not shown Limited generalizability due to small geographic region

Sex: 52.8% Female **Race/Ethnicity**: 87% White, non-Hispanic **Background Diet**: All infants were BF or FF and were categorized into groups based on when the child was introduced to solids Mean age of CFB introduction was later in FF vs. BF infants (23wk vs. 20wk)	**Assessment Methods**: Body composition: WLZ scores by NCHS reference were calcuated from measured weight/height Weight: velocity(g/month) of mean gain calcuated from measured weight; WAZ Length: velocity (cm/month) of mean gain calcuated from measured height; LAZ **Confounders accounted for:** Sex: X Feeding practices: X Birth size: X (Based on stratified matching of birth weight) Gestational age: All full-term Other: Growth from 0-4mo; protein intake; energy intake; Stratified matching was used to account for education, SES, maternal age, race/ethnicity	
Huh, 2011 Prospective Cohort Study; U.S. **Sample Size**: Baseline N: 1579 Analytic N: 847 Attrition: 46% Power Analysis and Sufficient Sample Size: NR **Sex:** 50.3% Female **Race/Ethnicity**: 29.3% non-white **Background Diet**: 67% BF; 33% FF at4mo	**Intervention/Exposure:** Age of CFB introduction: <4, 4-5, and ≥6mo in FF and in BF infants CFB: 10 solids/food groups, including infant cereal, other starches (teething biscuits, crackers), fruit, vegetables, meat, chicken or turkey, peanut butter, other cow's milk dairy product **Age:** 0-6mo **Assessment Methods**: Maternal questionnaire **Outcomes:** Weight status, Body composition (Adiposity); Weight; Height; **Age:** 3y **Assessment Methods**: Weight status: BMI calculated from measured weight/height; BMI z; used for obesity=BMI ≥95th %tile Body composition: skinfold thickness via calipers; BMI and BMIZ from measures Weight: Seca scale to 0.1kg Height: stadiometer to 0.1cm	**Limitations:** Groups differed on baseline characteristics and differences were not adjusted for in analyses; Cannot determine if outcome assessors were blinded; Cannot determine reliability/validity of outcome assessment; Did not adjust for potential key confounders (maternal age) Intake regulation may differ in FF vs. BF infants, leading to greater intake of CFB; Wider CI reflecting small number of infants in CFB>6mo group (n=25/279); Limited generalizability

	Confounders accounted for: Education: X SES: X Sex: X Race/ethnicity: X Birth size: X (Birth weight, birth weight-for-gestational age z-score) (Excluded, no effect) Gestational age: (Excluded, no effect) Other: Early infant-growth 0-4mo; Maternal and Paternal BMI	
Imai, 2014 Prospective Cohort Study; Iceland **Sample Size**: Baseline N: 250 Analytic N: 154 Attrition: 38.4% Power Analysis and Sufficient Sample Size: NR **Sex:** ~51% Female **Race/Ethnicity**: NR **Background Diet**: 40% EBF; 7.7% EFF at 5mo	**Intervention/Exposure:** Age of CFB introduction: at 5mo CFB: EBF (N: 62), CFB+BF (N: 57) **Age:** 5-8mo **Assessment Methods**: Caregiver questionnaire; 24h recall; Food record, weighed 3d **Outcomes:** Weight; Length; Body compsotion **Age:** 6-12mo; 12-18mo, 6y **Assessment Methods**: Body composition: BMI from measured height and weight Weight: scale to 0.1kg; reported as absolute and change in; used for BMI Length: stadiometer to 0.5cm; reported as absolute and change in; used for BMI **Confounders accounted for:** Education: X Sex: X Feeding practices: X (in model) Birth size: X (Birth weight)	**Limitations:** Cannot determine if outcome assessors were blinded; Cannot determine validity/reliability of outcome assessment; Did not adjust for potential confounders (SES, maternal age, race/ethnicity, or gestational age); Did not account for high attrition rate (38%) Small sample size (insufficient power); Did not collect information on exact time of introduction of CFB
Johnson, 2014 Prospective Cohort Study; U.K. **Sample Size**: Baseline N: 4860	**Intervention/Exposure:** Age of CFB introduction: <4mo (n=1714), ~5mo (n=1667), ≥6mo (n=1364) **Age:** 8.2mo	**Limitations:** Cannot determine validity/reliability of outcome assessment (parent report); Outcome assessors not blind; Did not

Analytic N: 4251 Attrition: ~12.5% Power Analysis and Sufficient Sample Size: NR **Sex:** 50.3% Female **Race/Ethnicity**: NR **Background Diet**: 23% never BF, n=1097; 53% BF birth to 4mo,n=2507; 24% BF > 4 mo, n= 1168; ~2% EBF ≥ 4mo, n=95	**Assessment Methods**: Caregiver questionnaire **Outcomes:** Weight **Age:** 6mo, 0-6mo **Assessment Methods**: Weight: Parent report of child health record weight: SDS according to reported weight; SITAR weight trajectory: Tempo was the age of peak weight velocity in wk (higher=delayed tempo); Weight velocity (kg/wk) **Confounders accounted for:** Education: X SES: X Sex: X Maternal age: X Feeding practices: X Gestational age: X Other: Birth order; parity; occupation; smoking; zygosity; child age at baseline	adjust for potential confounders (birth size, race/ethnicity) Groups unbalanced (29% in CFB >6mo group)
Kalies, 2005 Prospective Cohort Study; Germany **Sample Size**: Baseline N = 3,036 Analytic N = 2,337 Attrition = 23% Power Analysis and Sufficient Sample Size: NR **Sex:** 49% Female **Race/Ethnicity**: NR **Background Diet**: Feeding mode during time of observation: 24.4% EBF first 0-	**Intervention/Exposure:** Age of CFB introduction: 1-3mo, 4-6mo, >6mo **Age:** 2y **Assessment Methods**: Caregiver questionnaire **Outcomes:** Weight **Age:** 24mo **Assessment Methods**: Weight, height: recorded at preventive medical check-ups; reported as risk of elevated weight gain at 24mo **Confounders accounted for:** SES: X Sex: X Feeding practices: X	**Limitations:** Cannot determine whether groups were similar on baseline characteristics; Cannot determine if outcome assessors were blinded; Cannot determine validity/reliability of outcome assessment (height and weight non-duplicate at medical check-ups); Did not account for high attrition rate (23%); Did not adjust for potential key confounders (education; maternal age; race/ethnicity, birth size or gestational age) Parent self-reported feeding data; primary objective of study was not timing/type of CFB as such it appears

1mo, 16.3% BF for 2-3mo, 20.8% BF for 4-5mo, 38.6% BF > or = 6mo.	Other: Smoking; maternal BMI; birth order; study center; All full-term	IV/Exposure was used as a confounding in models
Khadivzadeh, 2004 Prospective Cohort Study; Iran **<u>Sample Size</u>**: Baseline N = 200 Analytic N = 193 Attrition = 3.5% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 47% Female **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: 100% BF at 4mo	**<u>Intervention/Exposure:</u>** Age of CFB introduction: CFB+BF at 4mo vs EBF 4-6mo **Age:** 4.5mo **Assessment Methods**: Maternal interview **<u>Outcomes:</u>** Weight; Length **Age:** 5, 6mo; 4-6mo **Assessment Methods**: Weight: Digital scale; weight and weight gain Length: Recumbent board; length and length gain **<u>Confounders accounted for:</u>** Sex: X Maternal age: X Race/ethnicity: X	**<u>Limitations:</u>** Cannot determine whether groups were similar on baseline characteristics; Cannot determine if outcome assessors were blinded; Cannot determine validity/reliability of outcome assessment; Did not adjust for potential key confounders (education, SES, birth size, gestational age, feeding practices) Degree of antenatal care was significantly higher in exclusively BF vs BF + CFB group but not included as confounder in analysis.
Kramer, 1985 Prospective Cohort Study; Canada **<u>Sample Size</u>**: Baseline N: 462 Analytic N: 347 Attrition: ~25% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 46.1% Female **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: At birth, 58.4% EBF, 72.6%	**<u>Intervention/Exposure:</u>** Age of CFB introduction: Continuous CFB: cereals and other solids **Age:** birth-1y **Assessment Methods**: Maternal interview **<u>Outcomes:</u>** Weight; Body composition **Age:** 24mo **Assessment Methods**: Body composition: • BMI: calculated via weight/height2 • Skinfold thickness: sum of triceps, subbscapular, and suprailiac measures via calipers by research staff	**<u>Limitations:</u>** Cannot determine whether groups were similar on baseline characteristics; Cannot determine validity/reliability of outcome assessment (insufficient detail); Did not account for high rate of attrition (>20%) ; Did not adjust for potential key confounders (race/ethnicity, birth size, gestational age)

Any BF; At 4mo, 18.8% EBF, 37.2% Any BF; At 6mo, 10.4% EBF, 22.5% Any BF (Kramer, 1985b, based on n: 382 at 6mo)	Weight: measured at home-visit by research staff **<u>Confounders accounted for:</u>** Education: X SES: X Sex: X Maternal age: X Feeding practices: X (duration of BF, step-wise) Gestational age: All full-term	
Kramer, 1985b Prospective Cohort Study; Canada **<u>Sample Size</u>**: Baseline N: 462 Analytic N: 382 Attrition: ~17% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 46.1% Female **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: At birth, 58.4% EBF, 72.6% Any BF; At 4mo, 18.8% EBF, 37.2% Any BF; At 6mo, 10.4% EBF, 22.5% Any BF	**<u>Intervention/Exposure:</u>** Age of CFB introduction: Continuous CFB: cereals and other solids **Age:** 0-4mo **Assessment Methods**: Maternal interview **<u>Outcomes:</u>** Body composition; Weight **Age:** 6mo, 12mo **Assessment Methods**: Body composition: • BMI: calculated via weight/height2 • Skinfold thickness: sum of triceps, subbscapular, and suprailiac measures via calipers by research staff Weight: measured at home-visit by research staff **<u>Confounders accounted for:</u>** Education: X SES: X Sex: X Maternal age: X Feeding practices: X Birth size: X (birth weight) Gestational age: All full-term	**<u>Limitations:</u>** Cannot determine whether groups were similar on baseline characteristics; Cannot determine validity/reliability of outcome assessment (insufficient detail); Did not adjust for potential key confounders (race/ethnicity, birth size, gestational age) Lack of detail on outcome measurements

Kramer, 2004 Prospective Cohort Study; Belarus **Sample Size**: Baseline N: 17,601 Analytic N: 17,046 Attrition: 3% Power Analysis and Sufficient Sample Size: NR **Sex:** NR **Race/Ethnicity**: NR **Background Diet**: NR; 100% were BF at birth	**Intervention/Exposure:** Age of CFB introduction: intake (any vs. none) of CFB at the start of the respective growth interval CFB: cereals, other solids, and juices **Age:** 0-12mo **Assessment Methods**: Maternal interview **Outcomes:** Body composition; Weight; Length; HC **Age:** 1-3mo; 3-6mo; 6-9mo; 9-12mo **Assessment Methods**: Body composition: WLZ based on CDC/WHO, 2000 Weight: NR; used to calculate WAZ Length: NR; used to calculate LAZ HC: NR **Confounders accounted for:** Education: X Birth size: X (All with birth weight >2.5kg) Gestational age: All full-term Other: Anthropometric outcome at current time (WAZ, LAZ, WLZ, HC), geographic region, urbanicity, hospital	**Limitations:** Cannot determine whether groups were similar on baseline characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine validity/reliability of outcome assessment (unstandardized); Did not adjust for potential key confounders (SES, sex, maternal age, race/ethnicity though participants were from RCT) Cereals consumed may not be generalizable; Only 1.2% of infants were consuming cereals at 3mo; Cannot rule out reverse causality, residual confounding, and selection bias; Trial promoted breast-feeding; Outcome assessment was unstandardized (various methods used; not primary outcome of original RCT)
Kuperberg, 2006 Prospective Cohort Study; Canada **Sample Size**: Baseline N: 102 Analytic N: 71 Attrition: 30% Power Analysis and Sufficient Sample Size: NR **Sex:** 49% Female **Race/Ethnicity**: NR	**Intervention/Exposure:** Age of CFB introduction: Continuous; Dichotomous (y/n) <4mo CFB: solids, and cow's milk **Age:** 48mo **Assessment Methods**: Maternal questionnaire; 24hr recall **Outcomes:** Weight status **Age:** 48mo **Assessment Methods**: Weight status: risk of overweight, based on BMI ≥ 85th %tile from measured length/height and weight. Weight at 3 and 18mo measured via portable infant scale; at 33 and 48mo, electronic scale.	**Limitations:** Cannot determine whether groups were similar on baseline characteristics; Cannot determine whether outcome assessors were blinded; Did not account for high rate of attrition to 48mo; Did not adjust for potential key confounders (education, SES, sex, maternal age, race/ethnicity, feeding practices, birth size, or gestational age) Mother's health information not available at 3mo; Limited IV/Exposure

Background Diet: 75% initiated BF 57.1% CFB by 4mo	Length: at 3 and 18mo measured via pediatric length board; height at 33 and 48mo, measured via microtoise modified tape measure **Confounders accounted for:** Other: NR	assessment to maternal self-report and one, 24hr recall; Lack of relevant data
Lande, 2005 Prospective Cohort Study; Norway **Sample Size**: Baseline N: 1934 (3000 mailed; 1934 returned at 12mo) Analytic N: 1441 Attrition: ~25% Power Analysis and Sufficient Sample Size: NR **Sex:** 47% Female **Race/Ethnicity**: NR **Background Diet**: NR	**Intervention/Exposure:** Age of CFB introduction: ≤4, 4-5, >5mo **Age:** 6mo; 12mo **Assessment Methods**: Parental FFQ **Outcomes:** Body composition **Age:** 12mo **Assessment Methods**: Body composition: • BMI: calculated based on height and weight measured by health-care personnel **Confounders accounted for:** Education: X SES: X Sex: X Maternal age: X Feeding practices: X Birth size: X Gestational age: All full-term Other: Smoking; Birth order	**Limitations:** Cannot determine whether groups were similar on baseline characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine validity/reliability of outcome assessment; Cannot determine if length of follow-up differed between groups; Did not adjust analyses for potential key confounders (race/ethnicity, and gestational age) Not all relevant data was shown/reported; Note: daily/weekly use of CFB at 6mo was collected but only compared against PI at birth; or in univariate analyses; and not against BMI at 12mo; univariate analyses showed significant effect of age of CFB intro
Lauver, 1981 Prospective Cohort Study; United States **Sample Size**: Baseline N: 202 Analytic N: 77 Attrition: 62% Power Analysis and Sufficient Sample Size: NR	**Intervention/Exposure:** Age of CFB introduction: ≤5 or >5mo CFB: Beikost/solids; Non-compliant were given CFB ≤5mo; compliant were given CFB >5mo **Age:** 5mo **Assessment Methods**: Caregiver interview	**Limitations:** Cannot determine whether groups were similar on baseline characteristics; Cannot determine adherence to protocols across groups; Unintended exposures not accounted for (differences between groups in BF and cow's milk); Cannot determine whether investigators were blinded;

Sex: NR **Race/Ethnicity**: 47% Black 48% White 5% Other **Background Diet**: 25% BF; 75% formula; 12% consumed CM by 6mo	**Outcomes:** Weight; Length **Age:** 6mo **Assessment Methods**: Weight and length recorded at clinic visits **Confounders accounted for:** Maternal age: X Feeding practices: X Birth size: X	Cannot determine validity/reliability of outcome assessment; Did not adjust for potential key confounders (education, SES, sex, or gestational age); Adequacy of statistical methods was insufficient
Layte, 2014 Prospective Cohort Study; Ireland **Sample Size**: Baseline N: 16,136 Analytic N: 11,134 Attrition: 31% Power Analysis and Sufficient Sample Size: NR **Sex:** 49% Female **Race/Ethnicity**: 86.3% Irish; 1.8% UK; 6.6% EU 2.4% African 2.8% Other **Background Diet**: 57.1% never BF; 4.3% BF<3mo; 5.6% BF<6mo; 8.8% BF 6+mo	**Intervention/Exposure:** Age of CFB introduction: <4mo, <5mo, <6mo, ≥6mo **Age:** 9mo **Assessment Methods**: Maternal interview **Outcomes:** Weight status; Weight **Age:** 0-9mo, 3y **Assessment Methods**: Weight status: risk of obesity based on BMI , calculated from measured height/weight by IOTF thresholds Weight: rapid gain calculated by measured weight on Seca scale to 0.5kg and length/height measured by height stick and indexed by IOTF **Confounders accounted for:** SES: X Sex: X Maternal age: X Feeding practices: X (BF in model) Birth size: X (Birth weight) Gestational age: X Other: Multiples; Birth order; Weight gain in pregnancy	**Limitations:** Cannot determine whether groups were similar on baseline characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine validity/reliability of outcome assessment; Did not adjust analyses for potential key confounders (education, race/ethnicity, and feeding practices though part of modeling)

Leary, 2015 Prospective Cohort Study; United Kingdom **<u>Sample Size</u>**: Baseline N: 5,112 Analytic N: 4,750 Attrition: 7% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 52.3% Female **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: 36.4% EBF; 49.5% PBF; 14.1% no BF	**<u>Intervention/Exposure:</u>** Age of CFB introduction: ≤2, 3, ≥4mo **Age:** 6mo **Assessment Methods**: Maternal questionnaire **<u>Outcomes:</u>** Body composition **Age:** 15y **Assessment Methods**: Body composition: FM, lean mass via DXA; *BMI: not reported in relation to CFB* **<u>Confounders accounted for:</u>** Education: X SES: X Sex: X Maternal age: X Feeding practices: X Birth size: X Gestational age: X Other: Current age; Maternal height; Parity	**<u>Limitations:</u>** Cannot determine whether groups were similar on baseline characteristics; Did not adjust for potential key confounders (race/ethnicity)
Makela, 2014 Prospective Cohort Study; Finland **<u>Sample Size</u>**: Baseline N: 1797 Analytic N: 848 Attrition: 52% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 48% Female **<u>Race/Ethnicity</u>**: NR	**<u>Intervention/Exposure:</u>** Age of CFB introduction: Continuous, mo; Categorical <4, 4-6, >6mo CFB: vegetables, fruits, grains, meat, fish and dairy categories not defined **Age:** birth-12mo **Assessment Methods**: Food diaries, collected in real-time **<u>Outcomes:</u>** Weight status; Weight **Age:** birth-24mo; at 24mo **Assessment Methods**: Weight status: risk of overweight or obesity based on Finnish age- and sex-specific growth references	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine the validity/reliability of outcome assessment (i.e., single vs multiple growth measures); Cannot determine how timing of introduction of individual food groups was analyzed; did not report outcomes for length or BMI; Did not account for high loss to follow-up (~52%); Did not adjust for potential

Background Diet: EBF duration: 2.6mo, BF duration: 8.6mo	Weight: Measured by study personnel, to nearest 0.1kg **Confounders accounted for:** Sex: X Feeding practices: X (BF, EBF duration) Birth size: X Gestational age: X Other: Gestational weight gain, maternal pre-pregnancy BMI	key confounders (education, SES, maternal age, race/ethnicity)
Moss, 2014 Prospective cohort study; U.S. **Sample Size**: Baseline N = 9550 Analytic N = 7200 at 2y, 6950 at 4y Attrition = 25% at 2y, 27% at 4y Power Analysis and Sufficient Sample Size: NR **Sex:** NR **Race/Ethnicity**: NR **Background Diet**: Ever BF: 70% Age CFB introduced: 24% <4mo, 50% 4-5mo, 26% >6mo	**Intervention/Exposure:** Age of CFB introduction: <4, 4-5, ≥6mo **Age:** 9mo **Assessment Methods**: Maternal interview **Outcomes:** Weight status **Age:** 2y, 4y **Assessment Methods**: Weight status: BMI percentile calculated using measured height/weight; classified as healthy weight (<85th), overweight (85-94th), or obese (≥95th) **Confounders accounted for:** Education: X SES: X Sex: X Maternal age: X Race/ethnicity: X Feeding practices: X Birth size: X (Birth weight)	**Limitations:** Cannot determine whether groups were similar at baseline on key characteristics; cannot determine whether outcome assessors were blinded; Did not account for high loss to follow-up (>20%); Did not adjust for potential key confounders (gestational age)
Neutzling, 2009 Prospective Cohort Study; Brazil **Sample Size**: Baseline N: 1460 Analytic N: 1204 Attrition = 18%	**Intervention/Exposure:** Age of CFB introduction: <4, >4mo **Age:** 6, 12mo **Assessment Methods**: Maternal interview **Outcomes:** Weight status	**Limitations:** Cannot determine whether outcome assessors were blinded; Did not adjust for potential key confounders (maternal age, gestational age)

Power Analysis and Sufficient Sample Size: Yes, N=1,204 (to detect statistically significant relative risks of 0.7) **Sex:** 50% Female **Race/Ethnicity**: 71% White, 29% Black or mixed skin color **Background Diet**: BF duration: 18% >12mo; EBF: 15% >4mo; Ever BF: 96% Age of CFB introduction: 49% <4mo	**Age:** 11y **Assessment Methods**: Weight status: risk of overweight (>85th percentile for BMI), and obesity (>85th percentile for BMI, >90th percentile for skinfolds); BMI percentile calculated using measured weight, height; triceps/subscapular skinfolds measured with calipers **Confounders accounted for:** Education: X SES: X Sex: X Race/ethnicity: X Feeding practices: X Birth size: X Other: Smoking, maternal pregestational BMI	
Pan, 2016 Prospective Cohort Study; U.S **Sample Size**: Baseline N: 1542 Analytic N: 1189 Attrition: 22.9% Power Analysis and Sufficient Sample Size: NR **Sex:** 50% Female **Race/Ethnicity**: 88% White non-Hispanic, 3.4% Black non-Hispanic, 4.8% Hispanic, 3.9% Other non-Hispanic **Background Diet**: BF duration: 48.6% <6 mo ; 51.4% ≥6mo	**Intervention/Exposure:** Age of CFB introduction (<4mo, Y/N); Age of SSB (juice drinks, soft drinks, soda, sweet tea, Kool-Aid) introduction: never, <6mo, ≥ 6mo **Age:** 10-12mo **Assessment Methods**: Caregiver questionnaire **Outcomes:** Weight status **Age:** 6y **Assessment Methods**: Obesity: based on BMI-for-age ≥95th %tile, calculated from maternal-report of weight and height taken with scale and tape **Confounders accounted for:** Education: X SES: X Sex: X Maternal age: X Race/ethnicity: X Feeding practices: X Birth size: X	**Limitations:** Cannot determine reliability/validity of outcome assessment and outcome assessors were not blinded due to both feeding and outcome data self-reported by mothers; Did not assess the impact of high loss to follow-up (~22.9%); Did not adjust analyses for potential confounders (gestational age) Limited generalizability due to sample not being representative (Data not derived from a nationally representative sample, underrepresented minority groups; sample biased toward mothers with more education and higher SES)

	Gestational age: Other: age at CFB introduction; pregnancy weight status	
Piwoz, 1996 Prospective Cohort Study; Peru **<u>Sample Size</u>**: Baseline N: 156 Analytic N: 140 Attrition: 11% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** NR **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: EBF to 4mo: 21%, BF/FF at 4mo: 13% Age of introduction of CFB: 61% by 4mo	**<u>Intervention/Exposure:</u>** Age of CFB introduction: <4 (BF/FF+CFB), >4mo (BF/FF) **Age:** 4mo **Assessment Methods**: Caregiver questionnaire **<u>Outcomes:</u>** Weight **Age:** birth-3mo; >3mo **Assessment Methods**: Weight: Measured by study personnel in duplicate, to nearest 100g **<u>Confounders accounted for:</u>** Birth size: X (All with birth weight >2.5kg)	**<u>Limitations:</u>** Groups differed at baseline on key characteristics that were not adjusted for in analyses (birthweight, age of formula and CFB introduction, calorie intake, diarrhea and fever prevalence); Cannot determine whether outcome assessors were blinded; Did not adjust for key confounders (sex, gestational age, race/ethnicity); Data and statistical comparisons reported in figures is not described (mean values, P-values, etc.) Limited generalizability of population due to time of data collection; Cannot rule out reverse causality (BF/FF practices during age of outcome)
Quandt, 1984 Prospective Cohort Study; U.S. **<u>Sample Size</u>**: Baseline N: 91 Analytic N: 45 Attrition: 50% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 47% Female **<u>Race/Ethnicity</u>**: 100% White **<u>Background Diet</u>**: EBF at baseline: 100%	**<u>Intervention/Exposure:</u>** Age of CFB introduction: <4, >4mo **Age:** 2wk to 6mo **Assessment Methods**: Food diaries, collected in real-time **<u>Outcomes:</u>** Body composition; Weight; Length **Age:** 1, 2, 3, 4, 5, 6mo **Assessment Methods**: Body composition: WLZ calculated from measures Weight and Length (recumbent): Measured by study personnel using standard anthropometric techniques **<u>Confounders accounted for:</u>** None	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine the validity/reliability of outcome assessment (i.e., single vs multiple growth measures); Did not account for high loss to follow-up (50%); Did not adjust for potential key confounders (education, SES, sex, maternal age, race/ethnicity, feeding practices, birth size, gestational age)

Age of CFB introduction: ~120d (36-178d)		Small sample size; Cannot rule out reverse-causality (tming of CFB during outcome assessment)
Reilly, 2005 Prospective Cohort Study; United Kingdom **<u>Sample Size</u>**: Baseline N: 13971 Analytic N: 5493 Attrition: 61% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 49% Female **<u>Race/Ethnicity</u>**: 86% White **<u>Background Diet</u>**: EBF at 2mo: 28%; Never BF: 15%	**<u>Intervention/Exposure:</u>** Age of CFB introduction: <1, 1-2, 2-3, 3-4, 4-6, >6mo **Age:** 6mo **Assessment Methods**: Parent questionnaire **<u>Outcomes:</u>** Weight status **Age:** 7y **Assessment Methods**: Weight status: risk of obesity (BMI ≥95th %tile); BMI calculated using measured weight, height **<u>Confounders accounted for:</u>** Education: X Sex: X Maternal age: X Race/ethnicity: X Feeding practices: X Birth size: X Gestational age: X Other: Energy intake at 3y, parity, maternal smoking, season of birth, # of fetuses, parental obesity, siblings, time spent watching tv and in the	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine the validity/reliability of outcome assessment (i.e., single vs multiple growth measures); Did not account for high loss to follow-up (61%); Did not adjust for potential key confounders (SES)
Robinson, 2009 Prospective Cohort Study; U.K. **<u>Sample Size</u>**: Baseline N: 1195 Analytic N: 536 Attrition: 55% Power Analysis and Sufficient Sample Size: NR	**<u>Intervention/Exposure:</u>** Age of CFB introduction: Not defined **Age:** 6mo, 12mo **Assessment Methods**: FFQ; maternal interview **<u>Outcomes:</u>** Body composition **Age:** 4y	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine the validity/reliability of some outcome measures (i.e., single vs multiple height, weight measures); Did not

<u>Sex:</u> 47% Female **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: Never BF: 12.5%; BF for 6mo: 20% Age of introduction to CFB: 76% by 4mo	**Assessment Methods**: Body composition: • BMI: Calculated using measured height, weight • Lean mass: Whole-body DXA measurement; Lean mass index: lean mass divided by height^2; • Fat mass (FM): Whole-body DXA measurement; Fat mass index (FMI): FM divided by height^2 **<u>Confounders accounted for:</u>** SES: X Maternal age: X Feeding practices: X Birth size: X Other: Maternal BMI, maternal height, smoking in late pregnancy	define age of introduction of CFB variable; Did not account for high loss to follow-up (55%); Did not adjust for potential key confounders (education, sex, race/ethnicity, gestational age)
Rossiter, 2013 Prospective Cohort Study; Canada **<u>Sample Size</u>**: Baseline N: 546 Analytic N: 377 Attrition: 31% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 43% Female **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: BF initiated: 75%; BF at 3mo: 44% Age of CFB introduction: 50% <4mo, 10% <2mo	**<u>Intervention/Exposure:</u>** Age of CFB introduction: <4, >4mo **Age:** 3, 18, 33, and 48mo **Assessment Methods**: Maternal interview **<u>Outcomes:</u>** Weight status **Age:** 4y **Assessment Methods**: Weight status: prevalance of overweight/obesity vs. normal/under weight with overweight classified as BMI≥85th percentile, and obesity as BMI≥95th percentile; BMI calculated using measured (duplicate) weight, height **<u>Confounders accounted for:</u>** Education: X SES: X Sex: X Maternal age: X Feeding practices: X Birth size: X Gestational age:	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Did not account for high loss to follow-up (31%); Did not adjust for potential key confounders (race/ethnicity, gestational age)

	Other: Maternal birthplace, smoking, siblings, marital status, number of people in home, parental classes, maternal weight	
Salmenpera, 1985 Prospective Cohort Study; Finland **<u>Sample Size</u>**: Baseline N: 198 Analytic N: at 6-9mo, N: 113 (FF+CFB N: 32; EBF N:36; BF+CFB N:45) Analytic N: at 9-12mo, N: 84 (FF+CFB N: 32; EBF N:7; BF+CFB N:45) Attrition: at 6-9mo, 42%; at 9-12mo, 58% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 53% Female **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: BF at 6mo: 59% Age of CFB introduction: 42% between 4-6mo	**<u>Intervention/Exposure:</u>** Age of CFB introduction: BF+CFB (6-9mo, or 9-12mo, N:45) vs. EBF (6-9mo, N:36 or 9-12mo, N: 7) **Article "comparison group" of FF+CFB <3.5mo of age is not included here* **Age:** NR **Assessment Methods**: NR **<u>Outcomes:</u>** Weight; Length **Age:** 6-12mo **Assessment Methods**: Weight: velocity from weight measured by study personnel to nearest 5g Length: velocity from recumbent length measured with length board by study personnel to nearest 1mm **<u>Confounders accounted for:</u>** Gestational age: X	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine the validity/reliability of outcome asssessment (i.e., single vs multiple growth measures); limited information provided regarding infant feeding measures; Did not account for high loss to follow-up (>40%); Did not adjust for key confounders (education, SES, sex, maternal age, race/ethnicity, feeding practices, birth size) Data and statistical comparisons reported in tables/figures for other relevant outcomes and sub-groups were not described (e.g., head circumference and skinfold comparisons not shown for BF+CFB vs. EBF) Article notes potential for reverse causality (faster growing infants had earlier timing of CFB/greater infant demand)
Santorelli, 2014 Prospective Cohort Study; United Kingdom **<u>Sample Size</u>**: Baseline N: 1735 Analytic N: 1327 Attrition: 24%	**<u>Intervention/Exposure:</u>** Age of CFB introduction: <17, >17wk CFB: sweetened foods a/o drinks **Age:** 6, 12mo **Assessment Methods**: Maternal questionnaire	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine the validity/reliability of outcome measures (i.e., single vs multiple growth

Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** NR **<u>Race/Ethnicity</u>**: 38% White, 49% Pakistani, 7% South Asian, 6% Other **<u>Background Diet</u>**: BF after CFB introduction: 32% Age of CFB introduction: 10% <17wk	**<u>Outcomes:</u>** Body composition **Age:** 3y **Assessment Methods**: Body composition: BMIZ: calculated using measured height, weight and converted into age- and sex-adjusted z-scores based on WHO, 2006 growth standards **<u>Confounders accounted for:</u>** Education: X Sex: X Maternal age: X Race/ethnicity: X Feeding practices: X Birth size: X Gestational age: X Other: Marital status, smoking during pregnancy, maternal BMI, delivery mode	measures); Did not account for high loss to follow-up (24%); Did not adjust for potential key confounders (SES)
Schack-Nielsen, 2010 Prospective Cohort Study; Denmark **<u>Sample Size</u>**: Baseline N: 8129 Analytic N: 5068 Attrition: 39% Power Analysis/Sample Size Calculation: NR **<u>Sex:</u>** NR **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: BF duration: 3.5mo; BF <2wk: 18% Age of CFB introduction: 3.8mo	**<u>Intervention/Exposure:</u>** Age of introduction to CFB: Continuous, mo; Categorical, ≥4 vs <4mo CFB: spoon-feeding, vegetables, eggs, meat, firm food **Age:** 1y **Assessment Methods**: Maternal questionnaire **<u>Outcomes:</u>** Weight status; Body composition; WC **Age:** 1-42y **Assessment Methods**: Weight status: risk of overweight based on BMI ≥25 using self-reported height and weight at 42y Body composition: BMI calculated using height, weight measured by study personnel at 1, 3, and 6y; school records at 7-14y; self-reported at 2-34y, 42y WC: Self-reported at 42y via mailed questionnaire and tape measure **<u>Confounders accounted for:</u>**	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Outcome assessors were not blinded at 20-34y, 42y; Did not use valid/reliable measures to assess outcomes (weight was self-reported at 20-34y and 42y); Did not account for high loss to follow-up (39%); Did not adjust for potential key confounders (race/ethnicity); Not all variables were analyzed in relation to all outcomes, and data from figures not adequately described Limited generalizability (CFB practices in 1959-1960)

	Education: X SES: X Sex: X Maternal age: X Race/ethnicity: Feeding practices: X Birth size: X (Birth weight) Gestational age: X Other: Prepregnancy BMI, gestational weight gain, smoking during pregnancy, marital status, weight at 1y	
Seach, 2010 Prospective Cohort Study; Australia **<u>Sample Size</u>**: Baseline N: 620 Analytic N: 307 Attrition: 50% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** NR **<u>Race/Ethnicity</u>**: 99% White **<u>Background Diet</u>**: Ever BF: 94%; EBF duration: 15wk; BF duration: 48wk Age of CFB introduction: 20wk (6% >6mo)	**<u>Intervention/Exposure:</u>** Age of CFB introduction: Continuous, wk **Age:** 0-64wk (weekly), 78wk, 2y **Assessment Methods**: Maternal interview **<u>Outcomes:</u>** Weight status **Age:** 10y **Assessment Methods**: Weight status: BMI calculated using measured height, weight (methods NR); classified into age- and sex-standardized BMI categories (normal weight, overweight and obese); overweight and obese were combined to create a binary outcome variable of an 'above healthy' BMI vs. 'healthy' **<u>Confounders accounted for:</u>** Education: X SES: X Race/ethnicity: X Feeding practices: X Birth size: X Other: Parental smoking, childcare	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine the validity/reliability of outcome measures (i.e., single vs multiple growth measures); Did not account for high loss to follow-up (50%); Did not adjust for potential key confounders (sex, maternal age, gestational age)
van Rossem, 2013 Prospective Cohort Study; The Netherlands	**<u>Intervention/Exposure:</u>** Age of CFB introduction: 0-3, 3-6, >6mo **Age:** 12mo	**<u>Limitations:</u>** Birth weight differed between timing of CFB groups, and was not adjusted for in analyses (all subjects were normal

Sample Size: Baseline N: 7295 Analytic N: 3184 Attrition: 56% Power Analysis and Sufficient Sample Size: NR **Sex:** NR **Race/Ethnicity**: 68% Dutch, 12% Other Western, 21% Non-Western **Background Diet**: BF at 2mo: 69%, BF at 6mo: 33% Age of CFB introduction: 5% 0-3mo, 57% 3-6mo, 38% >6mo	**Assessment Methods**: Maternal questionnaire **Outcomes:** Body composition **Age:** 12-45mo **Assessment Methods**: Body composition: • WLZ/WHZ: change in weight-for-length/height (kg/cm gain in length) z score according to Dutch reference; weight (SECA scale), length/height (supine/stadiometer) were measured by study personnel **Confounders accounted for:** Education: X Race/ethnicity: X Feeding practices: X Gestational age: X (All >37wk) Other: Smoking during pregnancy, maternal BMI, history of allergy or hospital admission in the first year of life	birth weight); Cannot determine if outcome assessors were blinded; Cannot determine the validity/reliability of outcome measures (i.e., single vs multiple measures); Did not adjust for several potential key confounders (SES, sex, maternal age, birth size); Adequacy of statistical methods insufficient (statistical comparisons between different timing of CFB introduction were not clearly made in tables, figures, or text) Infants introduced to CFB earlier had higher WLZ before CFB introduction; confidence intervals in tables indicate significance but comparisons were not clear
Victora, 1998 Prospective Cohort Study; Brazil **Sample Size**: Baseline N: 655 Analytic N: 627 Attrition: 4% Power Analysis and Sufficient Sample Size: NR **Sex:** 51% Female **Race/Ethnicity**: NR **Background Diet**: BF: 100%	**Intervention/Exposure:** Age of CFB introduction: <3, >3mo **Age:** 1, 3, 6mo **Assessment Methods**: 24-hr recall **Outcomes:** Body composition; Weight; Length **Age:** 3-6mo **Assessment Methods**: Body composition: ponderal index derived from weight divided by $length^3$ Weight: Measured by study personnel, to nearest 100g Length: Measured by study personnel, recumbent **Confounders accounted for:** Education: X	**Limitations:** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine the validity/reliability of outcome assessment (i.e., single vs multiple measures); Did not adjust for potential key confounders (sex, maternal age, race/ethnicity, feeding practices, birth size, gestational age) Limited generalizability due to study setting (lower HDI at the time of data collection)

	SES: X Other: Housing quality, crowding index, number of children <5y in house	
Villalpando, 2000 Prospective Cohort Study; Mexico **<u>Sample Size</u>**: Baseline N: 216 Analytic N: 170 Attrition: 21% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** NR **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: BF at birth: 90%; BF at 6mo: 25% Age of CFB introduction: 86% by 4mo	**<u>Intervention/Exposure:</u>** Age of CFB introduction: 15d intervals from 0-6mo, Continuous **Age:** 0-6mo **Assessment Methods**: Maternal interview, every 15d **<u>Outcomes:</u>** Weight; Length **Age:** 0-6mo **Assessment Methods**: Weight: Measured by study personnel with an electronic balance Length: Measured by study personnel using a length board **<u>Confounders accounted for:</u>** Feeding practices: X Birth size: X (All with birth weight 2500-4000g; Birth BMI) Gestational age: X (All full term) Other: Age, episodes of infection	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine the validity/reliability of outcome assessment (i.e., insufficient detail regarding single vs multiple measures); Did not account for high loss to follow-up (21%); Did not adjust for potential key confounders (education, SES, sex, maternal age, race/ethnicity) Limited generalizability (sample from slum population); Cannot rule out reverse causaliy (timing of CFB during outcome assessment)
Warrington, 1988 Prospective Cohort Study; U.K. **<u>Sample Size</u>**: Baseline N: 109 Analytic N: 78 Attrition: 28% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** NR **<u>Race/Ethnicity</u>**: 50% White, 50% Asian	**<u>Intervention/Exposure:</u>** Age of CFB introduction: Continuous, wk **Age:** 3, 6, 9 12, and 24mo **Assessment Methods**: Food records, 3d, weighed **<u>Outcomes:</u>** Weight **Age:** 1y, 2y **Assessment Methods**: Weight: Measured by study personnel **<u>Confounders accounted for:</u>** Race/ethnicity: X	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine if adherence was similar across study groups; Cannot determine whether outcome assessors were blinded; Cannot determine the validity/reliability of outcome assessment (methods not described); Did not account for high loss to follow-up (28%); Did not adjust for potential key confounders (Education, SES, sex, maternal age, feeding practices, birth size,

Background Diet: EBF for 12wk+: 5%; FF from birth: 40% Age of CFB introduction: 46% <12wk		gestational age); Adequacy of statistical methods insufficient (did not provide data table or statistics to accompany results reported via figure and text)
Wells, 1998 Prospective Cohort Study; U.K. **Sample Size**: Baseline N: 50 Analytic N: 20 Attrition: 60% Power Analysis and Sufficient Sample Size: NR **Sex:** NR **Race/Ethnicity**: NR **Background Diet**: BF and FF	**Intervention/Exposure:** Age of CFB introduction: <12, >12wk **Age:** 12wk **Assessment Methods**: Food records, 1d, weighed **Outcomes:** Body composition (Adiposity); Weight; Height **Age:** 2-3.5y **Assessment Methods**: Body composition: • FM, FFM: Calculated using total body water and weight • Skinfold thickness (triceps, subscapular): Measured by study personnel Weight: Measured by study personnel Height: Measured by study personnel **Confounders accounted for:** Feeding practices: X (energy intake, milk volume intake) Gestational age: X (all full term) Other: Child age, infant soothability score	**Limitations:** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine the validity/reliability of outcome assessment (i.e., single vs multiple measures); Length of follow-up ranged from 2-3.5y; Did not account for high loss to follow-up (60%); Did not adjust for potential key confounders (education, SES, sex, maternal age, birth size); Did not provide data table to accompany all results reported in text
Wen, 2014b Prospective Cohort Study; Australia **Sample Size**: Baseline N: 330 Analytic N: 242 Attrition: 27%	**Intervention/Exposure:** Age of CFB introduction: <2, 3-5, >6mo **Age:** 6mo **Assessment Methods**: Maternal interview **Outcomes:** Weight status; Body composition **Age:** 2y	**Limitations:** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Did not account for high loss to follow-up (27%); Did not adjust for

Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 54% Female **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: Duration of BF: 5.82mo; Ever BF: 97% Age of CFB introduction: 8% <2mo, 28% 3-5mo, 64% >6mo	**Assessment Methods**: Weight status: Overweight classified as BMI>25kg/m2, obese as BMI>30kg/m2 Body composition: BMI calculated using measured (duplicate) weight, length **<u>Confounders accounted for:</u>** SES: X (Household income; employment status) Sex: X Education: X Feeding practices: X Birth size: X (birth weight) Other: Marital status, tv time, mothers BMI and weight status, mothers county of birth; age of starting tummy time; using bottle at 1y; outdor activity time; food for reward; dietary intake at 2y; maternal age	potential key confounders (race/ethnicity, gestational age) Limited generalizability (sample was "very disadvantaged")
WHO, 2002 Prospective Cohort Study; China, India, Guatemala, Nigeria, Chile, Sweden, Australia **<u>Sample Size</u>**: Baseline N: NR Analytic N: 1252 Attrition: CD Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 45% Female **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: BF: 100%	**<u>Intervention/Exposure:</u>** Age of CFB introduction: 1-8, 9-16, 25-32wk vs 17-24wk **Age:** 0-32wk **Assessment Methods**: Maternal interview **<u>Outcomes:</u>** Weight; Length **Age:** 8wk (midpoint of 1-16wk), 24wk (midpoint of 17-32wk) **Assessment Methods**: Weight: Measured by study personnel Length: Measured by study personnel **<u>Confounders accounted for:</u>** Education: X Sex: X Maternal age: X Feeding practices: X (BF duration, food given to infant before BF, access of infant to breast, BF per day) Birth size: X (all with birth weight >2500g) Gestational age: X	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine loss to follow-up, baseline sample size not reported; Did not adjust for potential key confounders (SES, race/ethnicity); Statistical analyses were difficult to interpret (i.e., in several cases, the exposure of CFB introduction occurred after the time point at which the outcome was measured) Results showed small differences in growth based on timing of CFB introduction that were statistically significant but probably not biologically important

	Other: maternal surgery, number of previous births, maternal health	Limited generalizability (exclusively enrolled high SES)
Wolman, 1984 Prospective Cohort Study; United States **Sample Size**: Baseline N: 262 Analytic N: 164 Attrition: 37% Power Analysis and Sufficient Sample Size: NR **Sex:** NR **Race/Ethnicity**: NR **Background Diet**: BF 1-12 wk: 16%; BF >13wk: 5% Age of introduction to CFB: 89% <3mo; 65% before 1mo	**Intervention/Exposure:** Age of CFB introduction: <12, >13wk **Age:** 0-24mo **Assessment Methods**: Parent questionnaire **Outcomes:** Body composition (BMI); Weight; Height **Age:** 4-6y **Assessment Methods**: Body composition: • BMI calculated using height, weight taken from medical records Weight: Taken from medical records Height: Taken from medical records **Confounders accounted for:** None	**Limitations:** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Did not use valid/reliable measures to assess outcomes (growth measures taken from medical records); Cannot determine whether length of follow-up was similar across groups (follow-up age ranged from 4-6y); Did not account for high loss to follow-up (37%); Did not adjust for potential key confounders (SES, sex, education, maternal age, race/ethnicity, feeding practices, birth size, gestational age)
Woo, 2013 Prospective Cohort Study; United States, Mexico, China **Sample Size**: Baseline N: 365 Analytic N: 285 Attrition: 22% Power Analysis and Sufficient Sample Size: NR **Sex:** NR **Race/Ethnicity**: 33% US, 33% Mexican, 33% Chinese	**Intervention/Exposure:** Age of CFB introduction: Continuous, mo **Age:** 0-1y **Assessment Methods**: 24-hr food frequency recall of 21 food items, weekly **Outcomes:** Body composition (BMI); Weight; Length **Age:** 1y **Assessment Methods**: Body composition: • BMI calculated using measured height, weight Weight: Measured by study personnel in duplicate Length: Measured by study personnel in duplicate, supine	**Limitations:** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Did not account for high loss to follow-up (22%); Did not adjust for key confounders (SES, race/ethnicity)

<u>Background Diet</u>: EBF duration: 5wk in China, 14wk in US, 7wk in Mexico; BF duration: 37wk in China, 50wk in US, 52wk in Mexico Age of CFB introduction: 18wk in China, 23wk in US, 25wk in Mexican	**<u>Confounders accounted for:</u>** Education: X Sex: X Maternal age: X Feeding practices: X Birth size: X Gestational age: X (All >37wk) Other: Prepregnancy BMI, gestational weight gain, gestational diabetes, type of delivery, cohort site	
Worobey, 2009 Prospective Cohort Study; United States **<u>Sample Size</u>**: Baseline N: 242 Analytic N: 96 Attrition: 60% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 51% Female **<u>Race/Ethnicity</u>**: 24% Black, 76% Hispanic **<u>Background Diet</u>**: FF: 100% Age of CFB introduction: 4.23mo	**<u>Intervention/Exposure:</u>** Age of CFB introduction: Continuous, mo **Age:** 3, 6, 12mo **Assessment Methods**: Food record **<u>Outcomes:</u>** Weight **Age:** 3-6mo **Assessment Methods**: Weight: Measured by study personnel trained in reliable measurement **<u>Confounders accounted for:</u>** Education: X Sex: X Maternal age: X Race/ethnicity: X Feeding practices: X (# feeds per day) Birth size: X Other: Maternal BMI, weight and length gain from 0-3mo, maternal sensitivity to infant signals, country of origin, prepregnancy BMI, gestational weight gain	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Did not account for high loss to follow-up (60%); Did not adjust for potential key confounders (SES, gestational age)
Worobey, 2014 Prospective Cohort Study; United States	**<u>Intervention/Exposure:</u>** Age of CFB introduction: Continuous, mo **Age:** 3, 6, 12mo	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine

<u>Sample Size</u>: Baseline N: 242 Analytic N: 154 Attrition: 36% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** NR **<u>Race/Ethnicity</u>**: 24% Black, 54% Mexican, 25% other Latino **<u>Background Diet</u>**: FF: 100%	**Assessment Methods**: Food record **<u>Outcomes:</u>** Weight **Age:** 3-6mo **Assessment Methods**: Weight: Measured by study personnel trained in reliable measurement **<u>Confounders accounted for:</u>** Feeding practices: X (# of feeds at 3mo) Birth size: X Other: Maternal BMI, # of cries at 3mo, # of cry-feeds at 3mo, infant weight at 3mo, total sleep at 3mo	whether outcome assessors were blinded; Did not account for high loss to follow-up (36%); Did not adjust for potential key confounders (education, SES, sex, maternal age, race/ethnicity, gestational age)
Wilson, 1998 Prospective Cohort Study; U.K. **<u>Sample Size</u>**: Baseline N: 674 Analytic N: 545 Attrition: 19% Sample Size Calculation: NR **<u>Sex:</u>** 54% Female **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: EBF at 15wk: 26%, partial BF at 15wk: 37%, formula fed at 15wk: 37%	**<u>Intervention/Exposure:</u>** Age of CFB introduction: <15, >15wk **Age:** 0-2y **Assessment Methods**: Parent questionnaire **<u>Outcomes:</u>** Weight, height, BMI, % body fat **Age:** 7y **Assessment Methods**: Body composition: • BMI calculated using measured height, weight • % body fat calculated based on bioelectrical impedance (and skinfold thickness NR) Weight: Measured by study personnel Height: Measured by study personnel **<u>Confounders accounted for:</u>** SES: X Sex: X Feeding practices: x Birth size: X (Birth weight) Other: Height, maternal height, weight at first solids	**<u>Limitations:</u>** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine the validity/reliability of outcome assessment (i.e., single vs multiple measures); Did not adjust for potential key confounders (education, race/ethnicity, gestational age) Article states skinfold thickness measures were taken but data NR

Yeung, 1981 Prospective Cohort Study; Canada **Sample Size**: Baseline N: 403 Analytic N: 316 Attrition: 22% Power Analysis and Sufficient Sample Size: NR **Sex:** NR **Race/Ethnicity**: NR **Background Diet**: BF: 56% at 1mo, 39% at 3mo, 26% at 5mo, 21% at 6mo	**Intervention/Exposure:** Age of CFB introduction: <2, >2mo **Age:** 1, 3, 5, 6, 7, 8, 10, 12, 15, 18mo **Assessment Methods**: Food record, 4d **Outcomes:** Body composition **Age:** 6mo **Assessment Methods**: Body composition: • Skinfold thickness sum of triceps and subscapular skinfolds measured by study personnel **Confounders accounted for:** Gestational age: X (All full term)	**Limitations:** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determine the validity/reliability of outcome assessment (i.e., single vs multiple measures); Did not account for high loss to follow-up (22%); Did not adjust for ptoential key confounders (education, SES, sex, maternal age, race/ethnicity, feeding practices, birth size)
Zheng, 2015 Prospective Cohort Study; China **Sample Size**: Baseline N: 90066 Analytic N: 40510 Attrition: 55% Power Analysis and Sufficient Sample Size: NR **Sex:** 48% Female **Race/Ethnicity**: NR **Background Diet**: Ever BF: 93%	**Intervention/Exposure:** Age of CFB introduction: ≤3, 4-6, >6mo CFB: fish liver oil, rice cereal/porridge, egg yolk, fish paste, liver paste, tofu, animal blood, bread/steamed bun/fine dried noodle, ground meat/soy product, and pureed noodle/cookies **Age:** 1, 3, 6mo **Assessment Methods**: Maternal interview **Outcomes:** Weight status; Body composition **Age:** 4-5y **Assessment Methods**: Weight status: Obesity defined as BMI z-score>2SD, overweight defined as between 1-2SD Body composition: BMI calculated using self-reported weight, height **Confounders accounted for:** Education: X SES: X Sex: X	**Limitations:** Outcome assessors were not blinded; Did not use valid/reliable measures to assess outcomes (weight was self-reported; lack of detail provided); Did not account for high loss to follow-up (55%); Did not adjust for potential key confounders (sex, maternal age, race/ethnicity) Concern for multiple testing (analyzed two correlated outcomes [BMI, weight status] across many types of foods, increasing chance of false-positives Cohort data collected over a long interval (1999-2009) Limited generalizability of CFB (i.e., animal blood is not representative of CFB in the U.S.) and due to population

	Feeding practices: X (BF, timing of other CFB) Birth size: X (Birth weight) Gestational age: X Other: Maternal menarcheal age, type of delivery, maternal BMI, maternal occupation, weight gain by 3mo, age of other children	having very low prevalence of obesity (<2%)
Retrospective cohort studies		
Burdette, 2006 Retrospective Cohort Study; United States **<u>Sample Size</u>**: Baseline N: 372 Analytic N: 313 Attrition: ~16% Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** 47% Female **<u>Race/Ethnicity</u>**: 80% White; 20% Black Parents either both black or both white **<u>Background Diet</u>**: 25% never BF; 35% EBF for 4mo; 28% BF for <6mo; 25% BF 6mo-1y; 31% BF>1y	**<u>Intervention/Exposure:</u>** Age of CFB introduction: >4mo **Age:** 3y **Assessment Methods**: Maternal report **<u>Outcomes:</u>** Weight status, Body Composition **Age:** 5y **Assessment Methods**: Weight status: prevalance of BMI ≥85th %tile Body composition: • Fat-free mass, fat mass, and % body fat (DXA) • BMI, BMI %tile, BMI z-score: calculated via measured height and weight, 2000 CDC growth charts (weight/height: measured twice via digital scale and stadiometer) **<u>Confounders accounted for:</u>** Education: X SES: X Sex: X Maternal age: X Race/ethnicity: X Birth size: X Other: Fat-free mass; Smoking; SNAP enrollment; maternal obesity and diabetes status, marital status	**<u>Limitations:</u>** Cannot determine whether groups differed at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Non-validated measures used to assess infant feeding data; Did not adjust for potential key confounders of feeding practices and gestational age
Nested case-control/case-control studies		

Bammann, 2014 Nested Case-Control Study; 8 European countries: Belgium, Cyprus, Estonia, Germany, Hungary, Italy, Spain and Sweden **Sample Size**: Baseline N: 1024 Analytic N: 1024 Attrition: N/A Power Analysis and Sufficient Sample Size: Yes; OR 1.6+ can be detected at 90% power, two-sided p=0.05 **Sex:** 50.3% Female **Race/Ethnicity**: NR **Background Diet**: NR	**Intervention/Exposure:** Age of CFB introduction:<4mo CFB: cereals, meat, vegetables or fruits **Age:** 2-9y **Assessment Methods**: Caregiver report **Outcomes:** Weight status (Obesity) **Age:** 2-9y **Assessment Methods**: Weight status: risk of obesity based on IOTF categories; BMI calculated from measured weight (electronic scale) and length stadiometer **Confounders accounted for:** Education: X Sex: X Feeding practices: X Birth size: X Other: Country; Parent BMI; C-section; Smoking; Gestational weight gain;	**Limitations:** Cannot determine whether groups were similar at baseline on key characteristics; Cannot determine whether outcome assessors were blinded; Cannot determined validity/reliability of outcome assessment; Did not adjust for key confounders (SES, race/ethnicity, maternal age; gestational age) Adjusted for maternal BMI which accounts for maternal age
Gungor, 2010 Case-Control Study; U.S. **Sample Size**: Baseline N: 129 Analytic N: 129 (N: 70 controls vs. N: 32 cases; N: 27 not at risk) Attrition: 0% Power Analysis and Sufficient Sample Size: N/A **Sex:** 54.3% Female **Race/Ethnicity**: NR	**Intervention/Exposure:** Age of CFB introduction: Continuous, mo **Age:** 1wk, 1, 2, 4, 6, 9, 12, 15, 18, 24mo **Assessment Methods**: Caregiver report via clincal record **Outcomes:** Weight status **Age:** ~6.63y (SD: 0.62) **Assessment Methods**: Weight, length: measured nude on digital scale to 0.01kg and stadiometer to 0.1cm by trained nurses and recorded Weight status: overweight defined by age- and sex-specific BMI ≥ 85th percentile at ages 6, 7, 8y by CDC, 2000 standards	**Limitations:** Cannot determine whether groups were similar on baseline characteristics (i.e., other data from baseline 1 wk-24mo NR - maternal age; SES; race/ethnicity); Cannot determine reliability/validity of IV/Exposure (parental feeding data) from clinical records at ages 1wk, and 1, 2, 4, 6, 9, 12, 15, 18, 24mo; Weight status outcomes from recorded weight/height (measured via trained nurses) between 6-8y; Did not adjust for potential key confounders (maternal age; SES; race/ethnicity); Other potential

Background Diet: 31% EBF ≥ 6mo; mean BF duration 4.57mo (SD: 5.37)	**Confounders accounted for:** Education: X Sex: X Feeding practices: X Birth size: X Gestational age: X Other: Maternal and Paternal education; Parity; Earlier weight gain at multiple intervals was included in the model from 0-6mo; 6-12mo; 12-18mo; 18-24mo; 0-24mo	confounders included in analyses as concurrent exposures showed differences between resilient vs. overweight (both parental education; EBF; earlier weight gain gain intervals differed bn groups) Small sample size (N:102 analyzed)
Hui, 2003 Case-Control Study; China **Sample Size**: Baseline N: 386 Analytic N: 343 Attrition: 11% Power Analysis and Sufficient Sample Size: NR **Sex:** 52% Female **Race/Ethnicity**: NR **Background Diet**: OW: 71.5% never BF; 10.8% ever BF; 17.7% BF ≥ 3mo MW: 70.5% never BF; 18% ever BF; 11.5% BF ≥ 3mo NW: 68.5% never BF; 19.2% ever BF; 12.3% BF ≥ 3mo	**Intervention/Exposure:** Age of CFB introduction: <4mo (Y/N) **Age:** 6-7y **Assessment Methods**: Caregiver questionnaire and interview; Diet record, 3d **Outcomes:** Weight status **Age:** 6-7y **Assessment Methods**: Weight status: % based on derived BMI percentile: overweight group (92^{nd}), normal middle-weight group (45th–55^{th}), and normal low-weight group (<8^{th}) **Confounders accounted for:** Other: parental obesity	**Limitations:** Cannot determine whether groups were similar at baseline; Cannot determine validity/reliability of outcome assessment; Did not adjust for potential key confounders (education, SES, sex, maternal age, race/ethnicity, birth size, or gestational age) Appears they treated IV separately therefore collinearity is not a concern but key confounders were not adjusted for and appeared to differ between groups
Zhou, 2011 Case-Control Study; China **Sample Size**: Cases: 81 Controls: 81 Attrition: N/A	**Intervention/Exposure:** Age of CFB introduction: <4, 4-6, >6mo **Age:** 3-6y **Assessment Methods**: Parent questionnaire	**Limitations:** Cannot determine if groups were similar at baseline on key characteristics; Did not use valid/reliable measures to assess outcomes (growth measures taken

Power Analysis and Sufficient Sample Size: NR **<u>Sex:</u>** NR **<u>Race/Ethnicity</u>**: NR **<u>Background Diet</u>**: NR	**<u>Outcomes:</u>** Weight status **Age:** 3-6y **Assessment Methods**: Weight status: risk of obese vs. healthy weight based on age- and sex- specific BMI from IOTF categories, calculated using weight, height from kindergarten records **<u>Confounders accounted for:</u>** Education: X SES: X Sex: X Maternal age: X Feeding practices: X Birth size: X (Birth weight) Gestational age: X Other: Siblings, delivery mode, birth injuries, fetal education, pregnancy complications, small meal after kindergarten, sleep time, sports, pickiness, fast f	from school records); Did not adjust for potential key confounders (race/ethnicity) Small sample size; Cannot rule out reverse causality